



Exploration Guide

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Continuity of Learning

Continuity of learning has become a hot topic as school districts deal with possible pandemics and natural disasters that result in schools closing for extended periods of time. The discussion around continuity of learning also provides a comprehensive framework for the integration and use of virtual learning technologies and strategies. This framework can be used to guide the integration of virtual learning tools in a regular classroom, the use of virtual learning tools with students who are hospital/homebound, and the provision of virtual instruction.

Discuss the following “Hot Topics” with your school staff. Adapted from the Association for K-12 Online Learning (iNACOL) <http://www.inacol.org/col/> : The USDOE <http://www.ed.gov/admins/lead/safety/emergencyplan/pandemic/guidance/continuity-recs.pdf> : & the FLDOE recommends that school districts identify the following for short-term preparation <http://info.fldoe.org/docushare/dsweb/Get/Document-5581/dps-2009-207.pdf>

Technologies:

- Phone conferencing: Make sure teachers and administrators know how to use phone conferencing services. Review the availability of speaker phones and conference phones.
- Web-conferencing solutions: Hold synchronous class meetings with teachers; train teachers in web meeting software.
- Learning Management System solutions: Host asynchronous and synchronous class meetings.

People:

- Train teachers in use of the distance learning tools for short-term and long-term solutions. Support their use of distance learning tools blended with regular classroom instruction.
- Provide tutors through online tutoring. Conduct some classroom activities online on a regular basis so students get used to online instruction.
- Provide training to parents and students on how to access these tools from home in the case of a school closure.
- Do a review of any accessibility needs for students with disabilities.

Materials:

- House instructional materials online. If syllabus, materials and full online courses are available over the Internet, there are more in-depth approaches to continuity of learning.
- Consider open source educational resources (digital, sharable, re-usable, adaptable, creative commons licensing) that would be useful in distance and blended, online learning.
- Invest in digital content and instructional materials that could be delivered at a distance and used in online learning.



Getting Started – Here are some tips on how to begin connecting teachers to students outside the classroom. These are also great ideas to start using with hospital/homebound programs.

Conference Call Tips

Conference call services can be used to connect one or more students with a teacher/classroom. Regular speaker phones and conference call phones may be used. Considerations include:

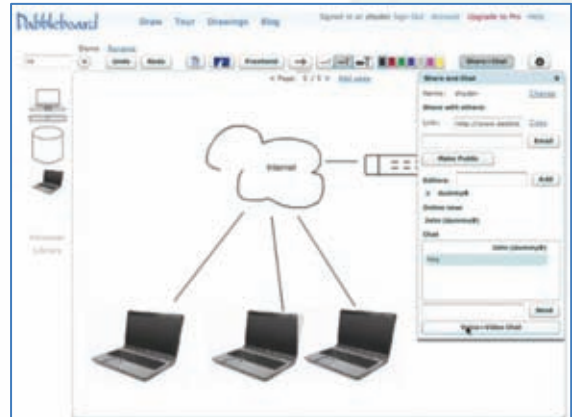
- The provision of a teleconference bridge service.
- The teacher using a wireless headset or staying close to the classroom phone to ensure the best sound quality from the classroom to the student.

- The use of a conference call phone with external microphones in the classroom to allow group interaction between students in the classroom and outside students.

Online Interactive Whiteboards

Teachers can use these interactive whiteboards in their classroom and students who are home can log in and view the teacher's work as well as add their own in real time. Combined with a speaker phone or conference call these whiteboards enhance the audio connection with an interactive visual work environment.

1. Dabbleboard - <http://www.dabbleboard.com/> . online collaboration application centered around a whiteboard
2. Skrbl - <http://www.skrbl.com/> . a simple and easy online multi-user whiteboard



Video Conferencing & Virtual Meetings

Video conferencing services offer a variety of features, starting with multiple audio and video connections. Additional features often include interactive whiteboards, desktop sharing, PowerPoint sharing, web tours, text chat, and polling/surveys. Note that video conferencing does not have to be one-to-one. With a large screen or LCD projector and a speaker phone the connection can be one teacher to a group or to several groups.

1. Skype - <http://www.skype.com> . a basic audio service for audio calls online as well as conference calls. video conferencing is available one-to-one.
2. Elluminate vSpaces - <http://www.illuminate.com/products/vspaces/index.jsp> . full featured web conferencing service to support distance learning activities with audio, video (up to six cameras at a time), desktop sharing, file sharing, web tours, session recording, and more.
3. Elluminate vRoom - <http://www.learncentral.org/user/vroomreg> - free version of Elluminate for up to 3 connections at a time. does not record meetings
4. Adobe Connect - <http://www.adobe.com/products/acrobatconnectpro/> . full featured web conferencing service to support distance learning activities with audio, video, desktop sharing, file sharing, web tours, session recording, and more.
5. Acrobat.com - <https://acrobat.com/#/> . free online meeting and applications that include a version of Adobe Connect for up to 3 connections, online word processing, presentation software, and spreadsheets
6. Talking Communities - <http://www.talkingcommunities.com/index.php> . full featured web conferencing service specifically designed to be highly accessible, especially for students/teachers who are blind/visually impaired and use a screen reader like JAWS. the single conference room service is very affordable; priced by the number of users
7. Second Life - <http://www.secondlife.com> . virtual worlds where school districts can create secure virtual school buildings in which students and teachers can meet
8. OpenSimulator - http://opensimulator.org/wiki/Main_Page . open source virtual worlds where school districts can create virtual school buildings in which students and teachers can meet

Learning/Content Management Systems

From keeping assignments online to conducting classes, these resources will help blend online and classroom instruction.

1. mySchoolog - <http://www.myschoolog.com/> . online tools for students. Includes organization tools, calendars, document storage, to do lists, and more
2. School Loop <http://www.schoolloop.com/> . free web and content management system for schools with additional available features for pay

3. Desire2Learn Sparks - <http://www.desire2learn.com/sparks/> . learning management system from Desire2Learn for K-12 to support elearning programs and online professional development
4. Eduslide - <http://www.eduslide.com/> . learning management system in open source and hosted versions
5. Curriki - <http://www.curriki.org/xwiki/bin/view/Main/WebHome> . online community where teachers, students, parents, and others can create and post content
6. PBWorks - <http://pbworks.com/content/edu+overview> . create online micro blogging and twitter style collaboration activities such as brainstorming and discussions
7. Moodle - <http://moodle.org/> . open-source course management system

Applications in the “cloud”

There are many online applications for word processing, spreadsheets, presentations, homework and project management, calendars, etc. With the documents and files being stored in the “cloud” (online), students and teachers can work together from a wide variety of geographical locations.

1. Google Docs - <http://docs.google.com> . includes online word processing, spreadsheets, presentations, and form creation for creating online questionnaires. most tools are collaborative in nature so several people can work on a document or file
2. ZOH0 - <http://www.zoho.com/> . includes mail, word processing, spreadsheets, presentations, notebooks, wikis, planners, and other tools. most tools are collaborative in nature so several people can work on a document or file
3. WriteOnline - <http://www.cricksoft.com/uk/writeonline/> . online word processor with text-to-speech, word prediction, and word bars to provide support and accommodations for students with disabilities
4. Acrobat.com - <https://acrobat.com/#/> . free online meeting and applications that include a version of Adobe Connect for up to 3 connections, online word processing, presentation software, and spreadsheets
5. WebSlides - <http://slides.diigo.com/> . a way to bundle and share web based information



Applications on USB Flash Drives

Installing applications and file storage on USB drives make it easy for students to take their work and applications from one computer to another.

1. AccessApps - <http://www.rsc-ne-scotland.ac.uk/eduapps/accessapps.php> . a free resource of selected applications bundled together to provide productivity tools as well as accessibility and accommodation tools for students with disabilities. Software categories include office productivity, planning and organization, multimedia tools, reading and writing support, visual supports, keyboard/mouse alternatives, web browsers, presentation tools, authoring tools, moodle, utilities, backup tools, simulation and modeling, and games.
2. PortableApps - <http://portableapps.com/> . resources for applications that will run from a flash drive
3. Pendriveapps - <http://www.pendriveapps.com/> . another extensive resource for apps that will run from a flash drive

Web 2.0

The “first” web was considered a read only web. Most of us would search for information and would read web pages. Web 2.0 is used to describe the changes that have occurred that support our ability to actually use the web as a work environment: doing word processing, making presentations, editing photographs, sharing videos,

storing files, meeting with people, just about anything you can think of. Many of the resources listed above are considered examples of the Web 2.0, but there are so many more. Where to start?

Web 2.0 Indexes/Lists

1. GO2WEB20 - <http://www.go2web20.net/> . extensive collection of links to all things Web 2.0. this is the place to start: just type in a word to describe what type of tool you are looking for (such as "presentation") and GO2WEB20 will give you a list of online tools ready for you to explore
2. SEOmoz's Web 2.0 Awards - <http://www.seomoz.org/web2.0> . 174 online sites considered some of the best Web 2.0 tools in categories such as: books, collaborative writing and word processing, education, maps, music, photos and visual imaging, video, visual arts
3. Web 2.0 Backpack for Students - http://www.readwriteweb.com/archives/web_20_backpack_web_apps_for_students.php . collection of "must have" Web 2.0 tools for students. categories include Office replacements, note taking, mind mapping, studying, bookmarking, calculations, and calendars



Web2.0 Integration Ideas & Tips

1. Web 2.0 in Education - <http://www.shambles.net/pages/learning/ict/web2edu/> . list of articles and information on the use of Web 2.0 tools in education
2. Johannes Ahrenfelt - <http://www.johannesahrenfelt.com/2009/08/26/engaging-web-2-0-tools-to-use-in-the-classroom/> . ideas about learning, ICT and pedagogy
3. NetLingo - <http://www.netlingo.com/acronyms.php> . list of internet acronyms and text message jargon

Web 2.0 Examples

1. VoiceThread - <http://voicethread.com/#home> . collaborative work environment where students can post text, audio, images, and video. teachers can use VoiceThread to support Universal Design for Learning in a classroom and in virtual instruction/distance learning. great project based learning tool
2. Wikispaces - <http://www.wikispaces.com/> . free wiki tool. the free version is ad supported, but if you are using the wiki for K-12 education you can request a free upgrade with no ads
3. Quia - <http://www.quia.com/web> . inexpensive tool to create online activities, quizzes, calendars, and surveys. grades and quiz/activity results are available online
4. Flickr Toys - <http://bighugelabs.com/> . an amazing collection of online apps for creating personalized magazine covers, posters, movie posters, jigsaws, etc.
5. Notely - <http://www.notely.net/> . online tools for students to help with organization and time management



Teacher Tools & Resources

Teacher tools are great for classroom use as well as for distance learning and virtual instruction. Many of them provide a way to create and share learning activities in the classroom and online.

General Curriculum Resources

1. The File Cabinet - <http://thefilecabinet.pbworks.com/> . online resources for grades K-8 in a variety of curriculum areas as well as resources on Web 2.0 tools
2. Word Dice - <http://www.crickweb.co.uk/assets/resources/flash.php?&file=worddice> . online tool for creating and using word dice (can choose one or two dice)
3. Internet Resource Links - <http://main.vasj.oh.k12us.com/siddings/Internet%20Resource%20Links> . create collection of links on topics like "20 sites to create online quizzes" and "50 ways to use wikis in the classroom"
4. Teachers' Domain - <http://www.teachersdomain.org/> . digital media for the classroom
5. The Smithsonian - <http://www.si.edu/> . the Smithsonian online for students and teachers
6. Map Maker - <http://nationalatlas.gov/natlas/Natlasstart.asp> . create maps online that show topography, climate, biology, geology, history, etc.
7. Docjax - <http://www.docjax.com/home/index.shtml> . a search engine for documents such as ebooks, PowerPoints, pdfs, etc.
8. Accessible Books - <http://www.setbc.org/setbc/accessiblebooks/> . early reading material (up to grade 3) that has been put in PowerPoint formats or Clicker formats to increase the accessibility of the books



Free Resources

1. Education World Tools & Templates - http://www.educationworld.com/tools_templates/index.shtml . great collection of templates, forms, classroom organizers, calendars, and more
2. Free4me - <http://free4me.wikispaces.com/> . online resource full of links to free software and materials for the classroom
3. Free Resources for Educational Excellence - <http://free.ed.gov/> . collection of free resources addressing Arts & Music, Health & Phys Ed, History & Social Studies, Language Arts, Math, and Science. the resources are categorized into Animations, Primary Docs, Photos, and Videos
4. UDL Toolkit - <http://udltechtoolkit.wikispaces.com/> . great resources to support Universal Design for Learning in your classroom

Printable (don't forget you can print to PDF for digital copies)

1. CSI:Mathematics - <http://www.ceismc.gatech.edu/CSI/homepg.html> . excellent online resources for printable math activities in a variety of grade levels
2. TinSnips - <http://www.tinsnips.org/> . online resources, teaching tools, worksheets, and activities for students with autism spectrum disorders
3. teAchnology - <http://www.teach-nology.com/> . lots of teacher time savers, printable worksheets, games, and downloads
4. ESL Flashcards - <http://bogglesworldesl.com/cards.htm> . printable vocabulary flash cards. note that this site is ad supported

Universal Access

All students can learn and achieve, but they need tools and technologies so they can use the skills, strategies, and curriculum / information resources they need to be successful. With computers set up for universal access, all students can learn to learn. They learn in their own unique ways through the wide variety of technology tools that enable them to interact with information from digital and printed material. Here are some examples of how universal access tools can help students succeed.

Carmen is a bright young woman who speaks English as her second language. She knows the best source of information for the report she is preparing will be found on the World Wide Web. She has trouble reading all the words, but usually understands English when she hears it spoken.

Carmen uses **screen-reading software** that translates World Wide Web pages to spoken text. When that isn't available she simply prints the page, scans it using **optical character recognition (OCR) software**, and listens as the computer voice software converts **text to audible speech**.



Jorge usually makes a quick trip to the media center on his way home from school to check the SUNLINK catalog and gather what he needs for his assignments. However, Jorge hurt his ankle while surfing last weekend and that quick trip becomes more difficult as he tries to stand in front of the computer, steady himself on his crutches, type, and take notes.

Jorge is far more comfortable and productive if he is sitting; he uses a **comfortable chair** and an **adjustable computer table** that can be lowered easily from standing height for other students to a height that can accommodate him while seated.

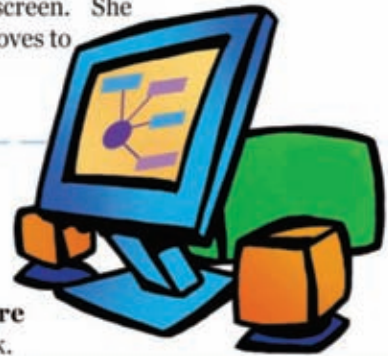
Cole does his best in school, but he's a late bloomer. His fingers sometimes just aren't coordinated, and he hits more than one computer key at a time. If only they'd make those keys a little bigger.

Cole uses a variety of technology tools to make his work easier. He often uses an **alternative keyboard** with large, touch-sensitive areas instead of keys. Because he has trouble controlling a computer mouse, a large **trackball** provides him with the ability to maneuver through programs.



Madison has a hard time writing. She knows what she wants to say, but sometimes has a little trouble coming up with the right word.

Madison's written work has been greatly improved by using **word prediction software**. As she begins to type a word several possible choices appear on the screen. She chooses one and moves to the next thought.



Antonio's mind tends to wander, but he can stay on task if he has a plan and a visual representation of the process or activity.

Antonio uses **cognitive organizers** and **concept mapping software** to keep him on task.

This information was developed by the Florida SUNLINK Project, the UCF ITRC Project, FDLRS/ TECH, FDLRS/TSLL, and the Florida Department of Education.

Screen Reading Software

Screen reading software “reads” the text on a computer screen out loud, providing students who struggle with reading access to text-based information. Programs that can read computer screens and web pages include:

1. Read & Write Gold - <http://www.texthelp.com>
2. ReadPlease and ReadingBar - <http://www.readplease.com/>
3. Natural Reader - <http://www.naturalreaders.com/>
4. Built-in text-to-speech on Macintosh computers - <http://www.apple.com/macosx/accessibility/>

Advanced Screen Readers

Students with significant visual problems may need an advanced screen reader that reads everything on the computer screen, providing an audio interface in place of a visual interface. Examples include:

1. JAWS - <http://www.freedomscientific.com/>
2. Window-Eyes - <http://www.gwmicro.com/>
3. Built-in VoiceOver on the Macintosh - <http://www.apple.com/accessibility/voiceover/>

Text Scanning Software (Optical Character Recognition—OCR) Many students struggle with reading and need printed materials converted to a digital format so a computer can then read the text out loud. Software that will convert printed text, such as books, workbooks, and periodicals, include:

1. Kurzweil - <http://www.kurzweilededu.com/>
2. Read & Write Gold - <http://www.texthelp.com>
3. WYNN - <http://www.freedomscientific.com/>
4. Scan and Read Pro - <http://www.premier-programming.com/>
5. OmniPage & OmniForm - <http://www.nuance.com/>

Alternate Access Keyboards / Mouse Emulators

A typical keyboard and computer mouse will work for many students, but some students may need larger keys, visually enhanced keys, or may need to control the computer with a switch system and an on-screen keyboard. Here are some examples:

1. IntelliKeys - <http://www.intellitools.com>
2. RJ Cooper Trackball - <http://www.rjcooper.com>
3. RJ Cooper Cross Scanner - <http://www.rjcooper.com/>
4. IntelliSwitch & DiscoverPro - <http://www.madentec.com/>

Writing Support

There are a couple of important writing supports for students. One is auditory feedback: the computer speaks what the student writes. The second is word prediction: the computer offers word suggestions based on rules of grammar and the students' own writing vocabulary.

1. SOLO/Write OutLoud - <http://www.donjohnston.com>
2. Classroom Suite - <http://www.intellitools.com>
3. ReadPlease - <http://www.readplease.com>
4. SOLO/CoWriter - <http://www.donjohnston.com>
5. Read & Write Gold - <http://www.texthelp.com>

Cognitive Organizers

Some students need help in organizing and processing the information they have access to. Some great software cognitive organizers include:

1. Inspiration & Kidspiration - <http://www.inspiration.com>
2. SOLO/DraftBuilder - <http://www.donjohnston.com>
3. iMindMap - <http://www.imindmap.com/>

Universal Design for Learning (UDL)

Universal design as used in IDEA is based on the definition found in the Assistive Technology Act of 1998. [Section 3(17)]

"The term 'universal design' means a concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly accessible (without requiring assistive technologies) and products and services that are interoperable with assistive technologies."

UDL definition from <http://www.cast.org/index.html>

"Universal Design for Learning (UDL) is a framework for designing curricula that enable all individuals to gain knowledge, skills, and enthusiasm for learning. UDL provides rich supports for learning and reduces barriers to the curriculum while maintaining high achievement standards for all."

Flexibility in Representation

- options for perception
- options for language and symbols
- options for comprehension

Flexibility in Expression

- options for physical action
- options for expressive skills/fluency
- options for executive functions (planning/monitoring)

Flexibility in Engagement

- options for recruiting interest
- options for sustaining effort/persistence
- options for self-regulation

Adapted from the Universal Design for Learning Guidelines v1.0. Download the complete UDL Guidelines Graphic Organizer at http://www.cast.org/publications/UDLguidelines/UDL_Guidelines_v1.0-Organizer.pdf

Universal Design for Learning provides an excellent framework for curriculum design and technology infusion. Use the following resources to learn more about UDL and how you and your school can use UDL as a guide for technology integration in the classroom.



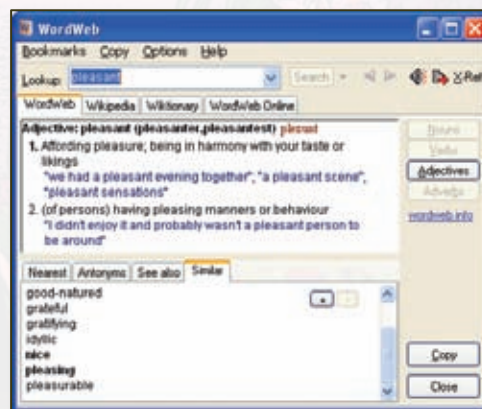
1. National Center on Universal Design for Learning - <http://www.udlcenter.org/> . new UDL center at CAST
2. UDL Guidelines - <http://www.cast.org/publications/UDLguidelines/version1.html> . guidelines to help in designing flexible curricula.
3. CAST UDL Learning Tools - <http://www.cast.org/learningtools/index.html> . extensive online collection of tools, such as the CAST Science Writer, to support learning

4. Computer Based Study Strategies - <http://cate.uoregon.edu> . excellent resource on strategies that benefit all students
5. UDL Toolkit - <http://udltechtoolkit.wikispaces.com/> . great resources to support Universal Design for Learning in your classroom
6. AT and UDL - <http://teachingeverystudent.blogspot.com> . great collection of information and ideas on teaching every student
7. Center for Electronic Studying - <http://cate.uoregon.edu> . excellent resource on strategies that benefit all students

As you read through this booklet you will find a wealth of great ideas and tools to help implement UDL in your classroom. Here are just a few examples.

Flexibility in Representation Examples & Tools

1. BrainPop - <http://www.brainpop.com/> . animated curriculum-based resources and activities
2. KartOO - <http://www.kartoo.com/> . a visual meta search engine
3. Natural Reader - <http://www.naturalreaders.com> . a free Win text-to-speech utility. add to Adobe Reader and your computer can read PDF files aloud . use with a web browser and the Internet "talks"
4. ReadingBar - <http://www.readplease.com> . adds text-to-speech to Internet Explorer on Windows so web pages can be read out loud and saved to audio . it also includes a feature that will enlarge the graphics and text on a web page
5. Visuwords - <http://www.visuwords.com/> . online graphical dictionary that presents words and meanings in a color coded web of information
6. WordWeb - <http://wordweb.info/free/> . a free English thesaurus and dictionary that works with most Win programs
7. Rationale (Win) - <http://www.austhink.com> . guided reasoning and argument thinking diagramming software for Windows. requires .net2 which may be on current XP machines
8. Interactive Romeo & Juliet - <http://www.canadianshakespeares.ca/folio/folio.html> . includes multimedia supports as well as a variety of resources and lexicons to help understand the content
9. WatchKnow - <http://www.watchknow.org/> . online videos for kids to learn from
10. Zac Browser - <http://www.zacbrowser.com/> . internet browser specifically designed for children on the autism spectrum



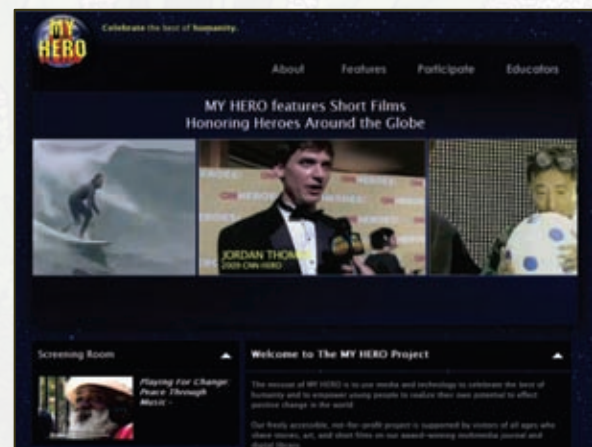


Flexibility in Expression Examples & Tools

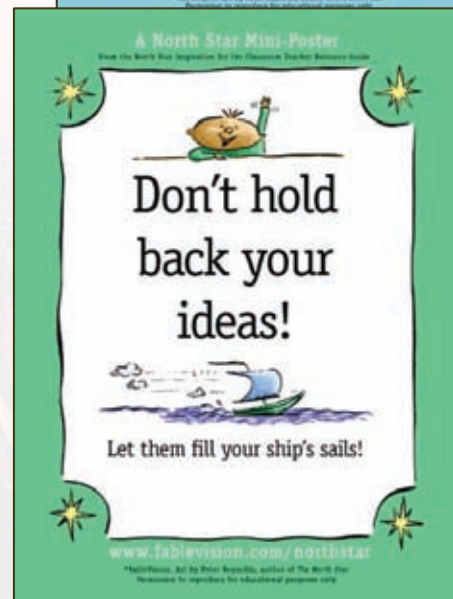
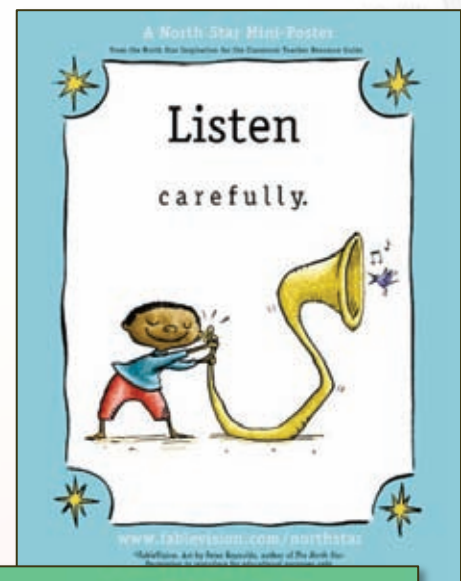
1. Voicethread - <http://voicethread.com/#home> . online tools for students to work together on projects using text, voice, pictures, and multimedia.
2. Flip - http://www.theflip.com/index_flip.shtml . an inexpensive video camera that is user friendly and includes built-in software to email videos or publish them online
3. Jing Project (Win . Mac) - <http://www.jingproject.com/> . free screen capture and screen recorder software
4. CamStudio (Win) - <http://camstudio.org/> . free open source screen recording software to record to an avi file any computer activity
5. Screenium (Mac) - <http://www.synium.de/products/screenium/index.html> . inexpensive screen and audio recorder for making quality training videos
6. Camtasia (Win) - <http://www.techsmith.com/> . excellent set of screen recording to video tools with extensive choices for final video format
7. Assignment Calculator - <http://www.lib.umn.edu/help/calculator/> . create a time management guide for writing papers
8. Visual Aids for Learning - <http://www.visualaidsforlearning.com/preschool-pack-learning.htm> . visual supports to help students stay on task and focus on learning activities

Flexibility in Engagement Examples & Tools

1. My Hero - <http://www.myhero.com/go/home.asp> . support reading and writing by allowing students to choose their heroes and to contribute information
2. Free Rice - <http://www.freerice.com/> . provides a reason to engage in the activities by donating 10 grains of rice for every correct answer

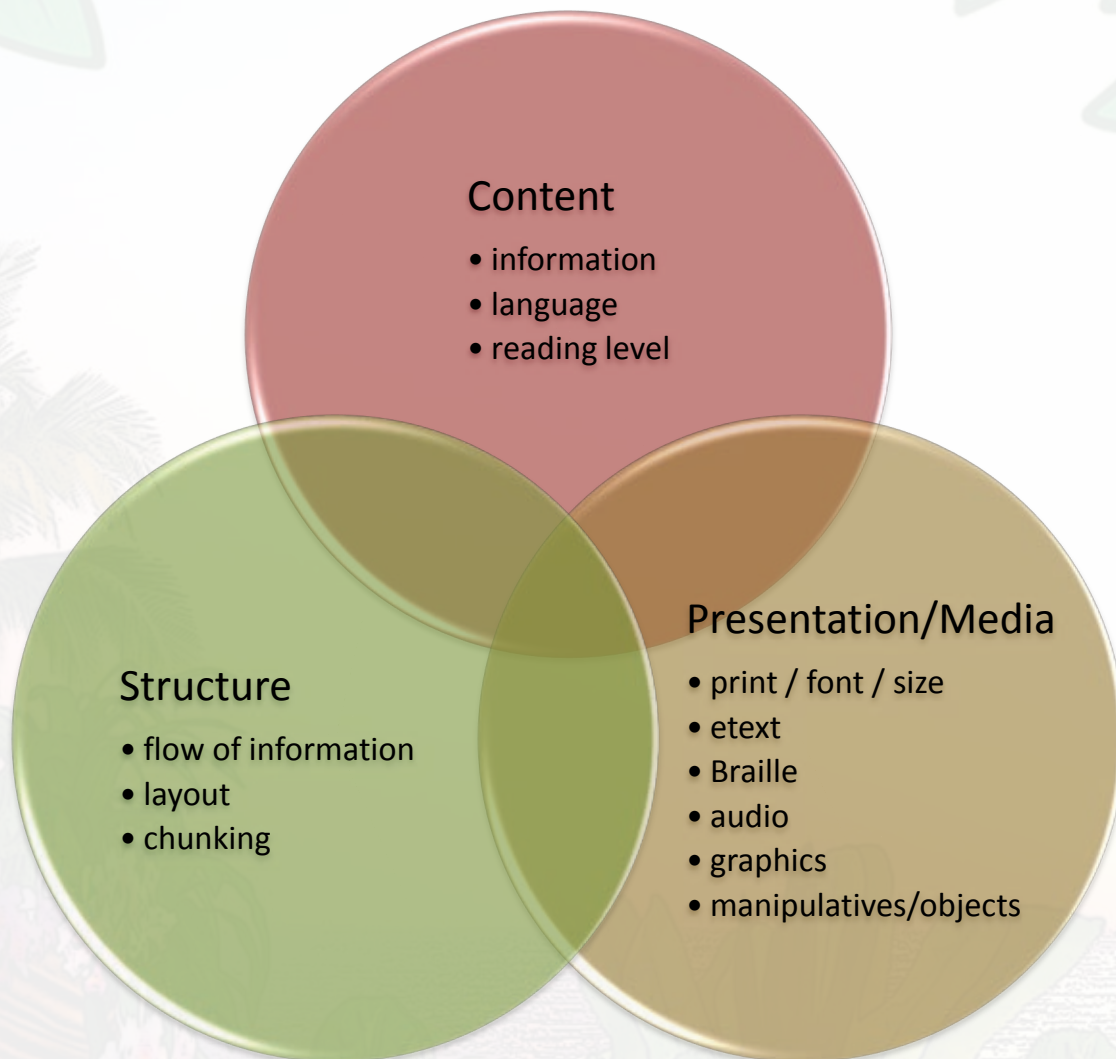


3. Windows to the Universe - <http://www.windows.ucar.edu/> . content lessons on our planet, solar system, and the universe. each lesson is available in 3 different reading levels and in English or Spanish
4. PowerUp - <http://www.powerupthegame.org/> . free 3D game you can download. students save Planet Helios from ecological devastation. all text chat is pre-set phrase based to prevent any inappropriate communication
5. Kid Tools Support System - <http://kidtools.missouri.edu/> . free performance support software for students, ages 7-13, that assists with self-management, problem solving, making plans, and organizing
6. Aspire (Mac) - <http://www.unifiq.com/aspire/> . broad goal oriented brainstorming and plan review software . includes some interesting tools for visually sorting information by importance
7. BrainCogs (Win . Mac) - http://www.fablevision.com/braincogs/cog_product.html . learning and test taking strategies software for grades 4-8
8. Student Schedule Maker Software - <http://student2.software.informer.com/download-student-schedule-maker/> . large collection of software to help organize and track time and activities
9. Printable Schedule Forms - http://www.kristensguide.com/Printables/student_schedule.asp . free student schedule, planner, and assignment forms
10. Using Student Essays to Build Coping Skills - http://www.educationworld.com/a_lesson/lesson/lesson030.shtml . ideas on helping students build coping skills
11. Wings of EPOH - <http://www.fablevision.com/wingsofepoh/> . story of a young boy with autism who takes a journey with a butterfly named Epoh ("hope" spelled backward) that teaches acceptance, tolerance and empathy. be sure to watch the video at the bottom of the webpage
12. North Star Mini Posters - <http://www.fablevision.com/northstar/miniposters/index.html> . free mini posters to download and use in the classroom, "aimed at encouraging life-long learning, diversity appreciation, creative thinking, positive school communities, and more!"
13. White Noise - <http://www.tmssoft.com/iphone-whitenoise.html> . iPhone app that provides ambient sounds to mask distractions
14. Ambiance - <http://ambiance.coneybeare.net/> . iPhone app that provides ambient sounds to mask distractions



Appropriate & Accessible Instructional Materials (AIM)

Accessible instructional materials are instructional materials and print instructional materials that have been formatted or adapted to meet the individual needs of students with disabilities. There are three aspects of instructional materials the IEP team may consider when determining what appropriate and accessible instructional materials are needed for a student.



- **Content:** Are the information, language, and grade level appropriate for this student?
- **Structure:** Is the flow of information appropriate for this student? Some students may be unable to handle large chapters of text successfully and need to work with the information in smaller chunks or in an outline form. This can include adapting the layout of the information.
- **Presentation:** Is the sensory aspect of the format appropriate for this student? Does the student need a larger print, an audio file, Braille, graphic enhanced text, colored overlays, etc.?

Current research in the development of math and science skills emphasizes the importance of math and science manipulatives and the cognitive progression from concrete (manipulatives – all grade levels) to representational (images, virtual manipulatives) to abstract (numbers, formulas). When using these types of instructional materials, attention should be paid to the accessibility needs of students with physical and visual disabilities.

When a student needs to work with concrete items, the accessibility needs should be addressed with those types of items. Moving to virtual manipulatives takes a student out of the concrete stage and is not an acceptable accessibility solution for students who need to succeed at the concrete level. Virtual manipulatives are great once a student has mastered the concrete stage. See the “Math” section for information on concrete and virtual manipulatives and the “Science” section for accessibility information for physical labs as well as information on virtual labs.

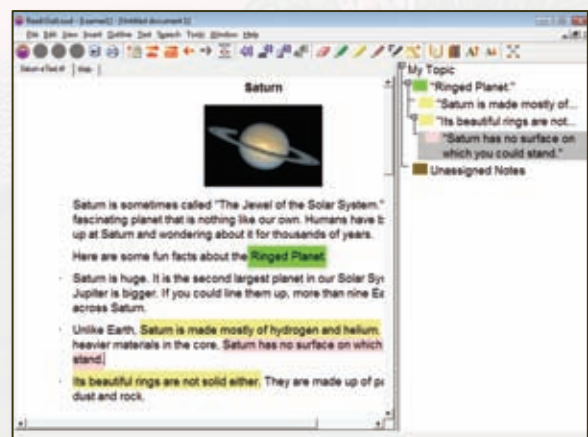
Content Resources (adjusting the language and reading level)

1. Fry's Readability Graph - <http://school.discoveryeducation.com/schrockguide/fry/fry.html> . resources from Kathy Schrock on tools to determine the readability level of a body of text as well as searchable databases on books based on student interest and reading level
2. Readability Calculator - <http://www.standards-schmandards.com/exhibits/rix/index.php> . just paste text to get a reading level
3. Scholastic BookWizard - <http://bookwizard.scholastic.com/tbw/homePage.do> . search engine for scholastic books by interest, reading level, etc.
4. Start-to-Finish Books - http://www.donjohnston.com/products/start_to_finish/index.html . middle and high school (5-12) subjects written at the 1.5 to 5.5 grade reading levels. available in printed books, computer-based books, and audio books
5. Sunlink - <http://www.sunlink.ucf.edu/> . search for books in Florida media centers by a variety of filters, including subject, reading level, and language

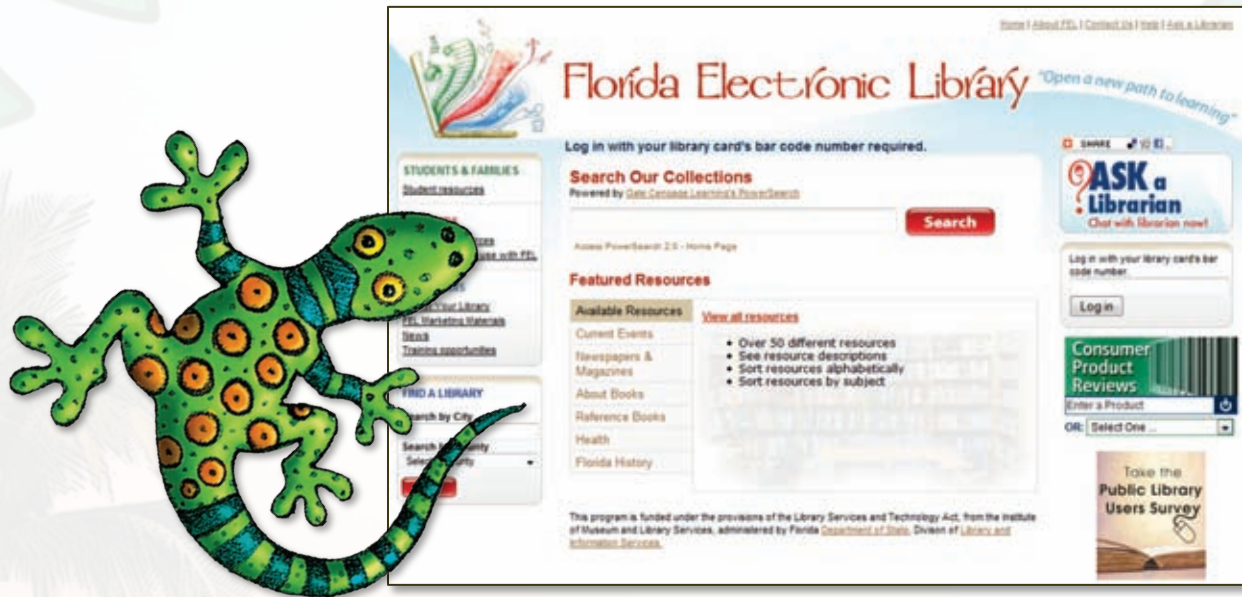


Structure Resources (adjusting the complexity of the content)

1. WORD AutoSummarize Tool - http://word.tips.net/Pages/T001809_Creating_an_Executive_Summary.html . Microsoft WORD tool to quickly reduce the amount of text or add visual structure
2. Read:OutLoud - http://www.donjohnston.com/products/read_outloud/index.html . includes highlighting tools that move the highlighted text to a separate area. works with a wide variety of file formats and includes a built in web browser. additional templates to support restructuring text and reading comprehension are available at: http://www.donjohnston.com/downloads/rol_guides/index.html
3. Read and Write Gold 8.1 - <http://www.texthelp.com/> . a suite of tools that float above open programs, allowing it to be used with web browsers, word processors, pdf files, etc.; features include highlight/extraction and autosummarize tools



4. ReadingMadeEZ Talking Word Processor - <http://www.readingmadeez.com/products/TalkingWordProcessor-Features.html> . includes highlight/extraction tools and autosummarize tools
5. Accessible Books - <http://www.setbc.org/setbc/accessiblebooks/> . early reading material (up to grade 3) that has been put in PowerPoint formats or Clicker formats to increase the accessibility of the books
6. Creating PowerPoint Books - <http://atto.buffalo.edu/registered/Tutorials/talkingBooks/powerpoint.php> . instructions and template for making PPT books
7. PowerTalk - <http://fullmeasure.co.uk/PowerTalk/> . an add-on utility to create talking PowerPoint books and presentations



Media Resources (adjusting the presentation)

1. Accessible Book Collection - <http://accessiblebookcollection.org/> . a digital book resource
2. Page by Page Books - <http://www.pagebypagebooks.com/> . classic books online and ready to use
3. Disney Digital Books - <http://disneydigitalbooks.go.com/> . online books with the magic of Disney
4. Lit 2 Go - <http://etc.usf.edu/lit2go/> . collection of literature in mp3 format
5. Florida Electronic Library - <http://www.flelibrary.org/> . digital magazines, newspapers, encyclopedias, and books
6. Learning Through Listening - <http://www.rfbd.org/> . accessible audio book library for students with disabilities
7. Bookshare.org - <http://www.bookshare.org/web/Welcome.html> - free digital library for all qualifying students in the U.S.
8. Tar Hill Reader - <http://tarheelreader.org/> . collection of free, beginning reader accessible books
9. OmniForm - <http://www.nuance.com/omniform/> . great for scanning printed worksheets and forms into an electronic format
10. MySignVideoLink - <http://www.cats.gatech.edu/MySignVideoLink/> . allows you to watch a captioned or subtitled DVD, pause it, and type a word into a prompt box and then see that sign



11. Signing Savvy - <http://www.signingsavvy.com/> . similar to the ASL Browser with the additional feature of being able to select large videos (when signed in)
12. ASL eCards - <http://deafresources.com/card/> . send an ecard with ASL
13. Braille and ASL Fonts - <http://www.tsbvi.edu/Education/fonts.html> . free downloads of fonts



14. Boardmaker Sign Language Symbols - <http://store.mayer-johnson.com/us/pcs-sign-language-symbols.html> . develop ASL materials with Boardmaker

15. Sign Language & Deafness - http://www.fsdb.k12.fl.us/rmc/deaf/deaf_sign.html . extensive collection of activities and resources related to deafness

16. RMTCC Captioning Center - <http://www.fsdb.k12.fl.us/rmc/services/caption.html> . Florida resource for captioned instructional videos

Digital Book / Daisy Book Players (digital text/audio books with navigation options)

1. gh Player and example Daisy Books - <http://www.gh-accessibility.com/store/download.php>
2. AMIS Free Reader - <http://www.daisy.org/projects/amis/index.php>
3. Victor Reader . http://www.humanware.com/en-usa/products/blindness/dtb_players/software/detail/s/id_62/victor_reader_soft.html
4. EasyReader - <http://www.yourdolphins.com/productdetail.asp?id=9>
5. Victor Readers (Stream, Wave) - http://www.humanware.com/en-usa/products/blindness/dtb_players/compact_models
6. Victor Readers Classic - http://www.humanware.com/en-usa/products/blindness/dtb_players/classic_models
7. Classmate Reader - <http://www.donjohnston.com/products/portables/classmate/index.html>



IDEA 2004 established the National Instructional Materials Accessibility Standard (**NIMAS**) and requires LEAs to provide accessible materials to students who qualify as being print disabled due to a visual, physical, or organic based reading disability. Through this system core curriculum textbooks are available in specialized formats (Braille, audio, digital etext, large print). For more information in Florida visit NIMAS/Florida at <http://www.fimcvi.org/>

Students with disabilities who do not qualify for NIMAS related services must still be provided accessible instructional materials under IDEA 2004. Options include requesting unlocked, accessible digital textbooks as needed from the current publishers, using scanning technology, and using a digital text library/resource.



The North Star - FableVision

As a framework for the infusion of technology in the classroom, FableVision materials are similar to Universal Design for Learning (UDL) in that they are both student centric and share a goal of the student as an expert and lifelong learner. The FableVision materials focus on the emotional relevance of the curriculum to each student to help every student find their personal North Star.



North Star Guide Technology Tool Categories

- Creativity/Expression
- Crafting/Building
- Exploration
- Communication
- Innovation/Problem Solving
- Publishing/Sharing

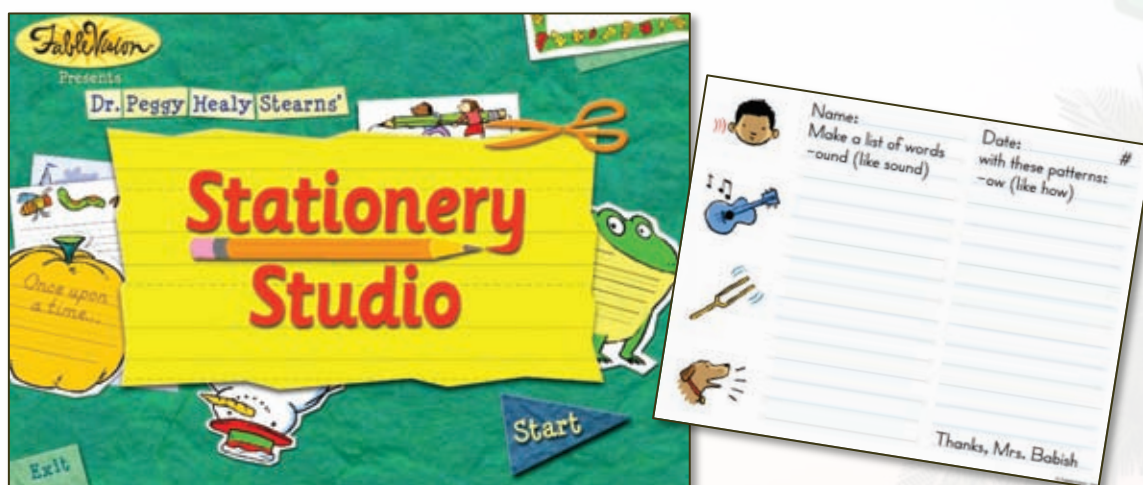
View the North Star Guide at <http://www.fablevision.com/northstar/techplan/index.html>



North Star Resources

1. The North Star Story - <http://www.fablevision.com/northstar/> . a great online story that affirms the individuality of the journey each student takes. a book version can also be ordered
2. The North Star Overview - <http://www.fablevision.com/northstar/overview/overv.html> . an overview of some of the online resources available at the North Star website

3. The Live Wire Blog - <http://fablevisionlearning.com/blog/> . keep up with news, ideas for the classroom, and view information shared by teachers
4. North Star Mini Posters - <http://www.fablevision.com/northstar/miniposters/index.html> . free mini posters to download and use in the classroom, "aimed at encouraging life-long learning, diversity appreciation, creative thinking, positive school communities, and more!"
5. FableVision Learning - <http://www.fablevision.com/education/> . resources for teachers
6. FableVision Place - <http://www.fablevision.com/place/index.html> . interactive town with games, stories, and fun places to visit
7. FableVision Field Guide - http://www.fablevision.com/education/telefables/tr_fieldguide.html . tips for a creative life-long learning adventure
8. SmartMoves (Video DVD) - <http://www.fablevision.com/smartmoves/> . a series of increasingly complicated body movements that function as a kind of calisthenics for the brain



FableVision Software

9. Stationery Studio (Win . Mac) - <http://www.fablevision.com/stationerystudio/index.php> . incredible program for creating writing guides and printed materials for grades K-5. download a demo version from the website
10. Essay Express (Win . Mac) - <http://www.fablevision.com/education/products/essayexpress.html> . writing strategy software for grades 4-8
11. BrainCogs (Win . Mac) - http://www.fablevision.com/braincogs/cog_product.html . learning and test taking strategies software for grades 4-8
12. Animation-ish (Win . Mac) - <http://www.fablevision.com/animationish/index.php> . super animation software for students in grades K-up

FableVision Books

1. The North Star Classroom Resource Guide - <http://www.fablevision.com/northstar/inspiration.html> . a guide to help make your classroom a place of adventure and excitement
2. The North Star - <http://www.fablevision.com/education/products/thenorthstar.html> . follow a young boy on a journey to find his personal north star
3. The Dot - http://www.fablevision.com/education/products/dot_book.html . a fable about the spirit of creativity in all of us
4. Wings of EPOH - <http://www.fablevision.com/wingsofepoh/> . story of a young boy with autism who takes a journey with a butterfly named Epoh ("hope" spelled backward) that teaches acceptance, tolerance and empathy. be sure to watch the video at the bottom of the webpage

Reading

Start by looking at your state's requirements for reading. The following is for Florida.

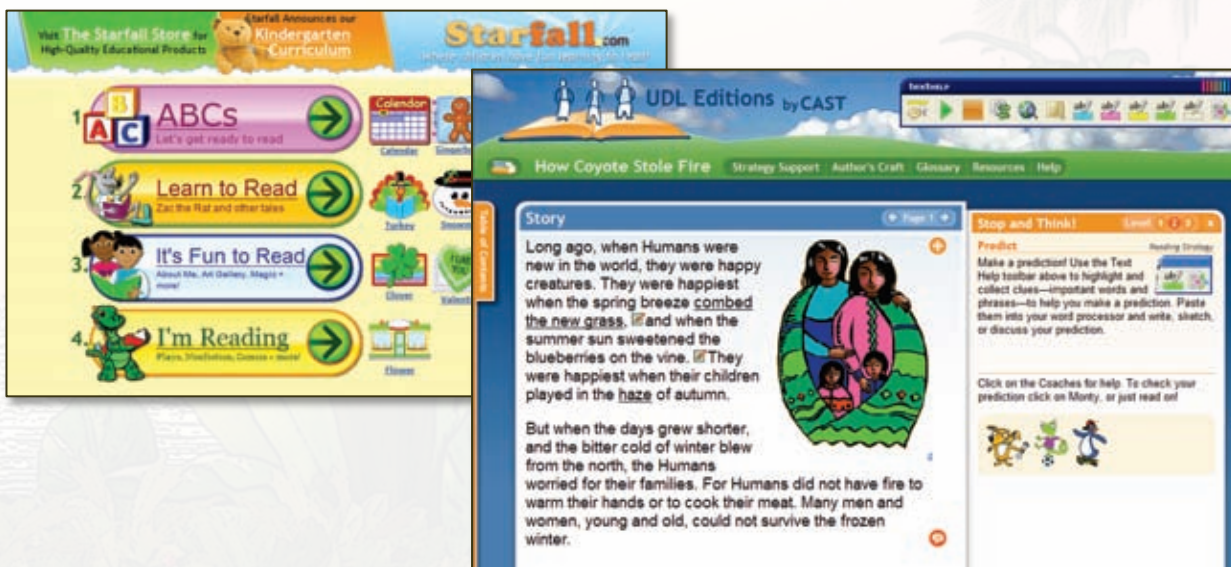
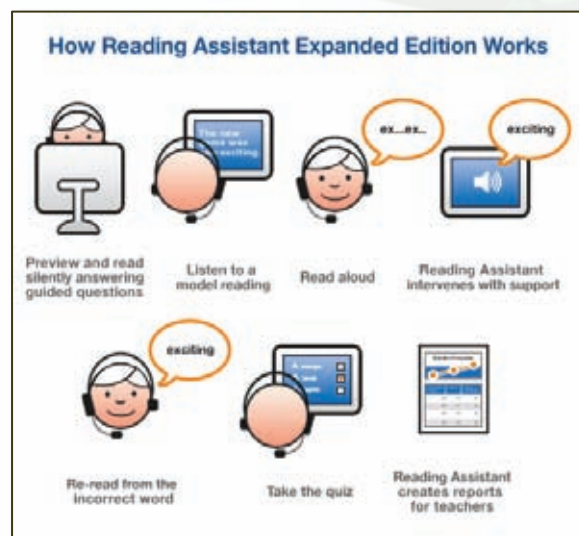
1. Sunshine State Standards - <http://www.floridastandards.org/downloads.aspx>
2. FCAT Reading Sample Tests - <http://fcats.fldoe.org/fcatitem.asp>
3. FCAT Released Reading Tests - <http://fcats.fldoe.org/fcatrelease.asp>

Reading Activities

1. Reading A-Z - <http://www.readinga-z.com/> . a reading resource center
2. Fast ForWord - <http://www.scilearn.com/products/> . research based reading intervention software with a high degree of success
3. Earobics : Step 1 & 2 (Win . Mac) - <http://www.earobics.com> . intervention software with a focus on auditory perception and phonemes within words
4. The Little Animals Activity Center - <http://www.bbc.co.uk/schools/laac/words/dg3.shtml> . online rhyming game
5. SpellCity - <http://www.spellingcity.com/> . free online tool where teachers and students can enter spelling words and then play a variety of games to reinforce the spelling skills
6. Start-to-Finish Series (Win . Mac) - <http://www.donjohnston.com> . middle and high school subject matter written at the 1.5 to 5.5 grade level. available in printed, computer-based, and auditory formats
7. ClozePro (Win . Mac) - <http://www.cricksoft.com> . create fill-in-the-gap activities with visual and auditory supports
8. Apples 4 the Teacher - <http://www.apples4theteacher.com/> . free online classroom (up to grade 6) activities in a variety of curriculum areas
9. Interactives - <http://www.learner.org/interactives/> . provides educators and students with strategies, content, and activities that can enhance and improve students' skills in a variety of curricular areas
10. Phonics Companion & Vocabulary Companion - <http://www.teamvistech.com/> . create customized printable phonics and vocabulary worksheets
11. Literactive - <http://www.literactive.com/Home/index.asp> . free online reading support materials for pre-school, kindergarten, and grade 1. a registration is required for use
12. LEaRN - <http://learn.nefec.org/> . literacy essentials and reading network
13. Read . Write . Think - <http://www.readwritethink.org/> . online resource of highly interactive lessons and engaging student materials from the international reading association



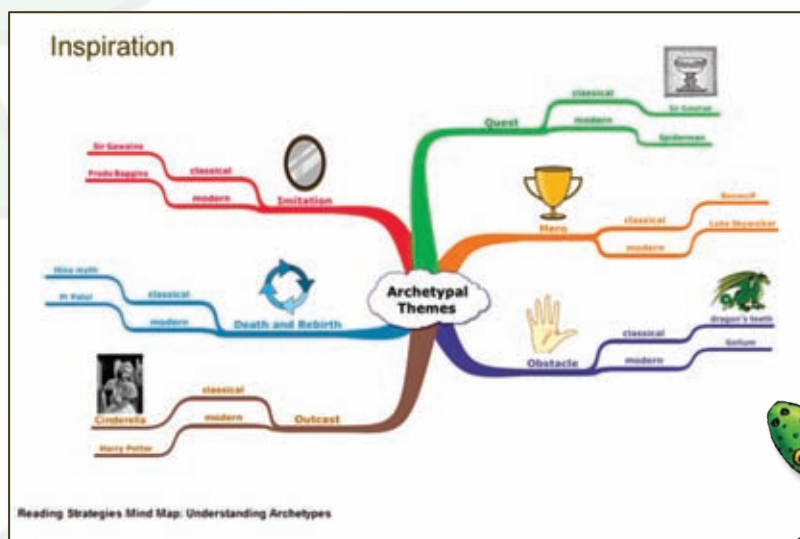
14. Simon Sounds It Out (S.I.O.) (Win . Mac) - <http://www.donjohnston.com> . focuses on letter sounds and word families. includes switch access and keyboard control. usable with alternative keyboards
15. WordMaker (Win . Mac) - <http://www.donjohnston.com> . focuses on word attach and spelling skills. includes switch access and keyboard control. usable with alternative keyboards
16. Reading Assistant (Win . Mac) - <http://www.scilearn.com/products/index.php> . students can hear stories read aloud or get feedback as they read the stories aloud
17. Classroom Suite (Win . Mac) - <http://www.intellitools.com> . preK through 5 reading, writing, and math tools
18. Thinking Reader (Win . Mac) - <http://www.tomsnyder.com> . 7 to 8 grade literature titles with text-to-speech and embedded reading strategy supports
19. WordMenu (Win . Mac) - <http://www.wordmenu.com/> . a text-based visual organization of words by subject matter
20. Utah Education Network - <http://www.uen.org/k12student/> . extensive collection of resources in a variety of curriculum areas. be sure to look on the right side of the page for the "Student Interactives" for grades K-2, 3-6, and 7-12.
21. The Literacy Project - <http://www.google.com/literacy/> . a resource for teachers and literacy organizations. includes articles, videos, links to blogs, and other resources



Online Books & Reading Support

1. StarFall - <http://www.starfall.com/> . the ABC's of getting ready to read. extensive materials and resources for early literacy development
2. BookBox - <http://www.bookbox.com/> . inexpensive digital books in a wide variety of languages. many of the books can be read in one language with subtitles in a different language
3. UDL Editions by CAST - <http://udleditions.cast.org/> . online books with flexible supports for ages 10 up
4. Accessible Book Collection - <http://accessiblebookcollection.org/> . a digital book resource
5. Page by Page Books - <http://www.pagebypagebooks.com/> . classic books online that are ready to use

6. Lit 2 Go - <http://etc.usf.edu/lit2go/> . collection of literature in mp3 format
7. Florida Electronic Library - <http://www.flelibrary.org/> . digital magazines, newspapers, encyclopedias, and books



Graphic Organizers / Cognitive Support

1. Graphic Organizers - <http://www.teachervision.fen.com/graphic-organizers/printable/6293.html?s2> . free online source of printable graphic organizers in a wide variety of cognitive supports
2. Kidspiration & Inspiration (Win . Mac) - <http://www.inspiration.com> . graphic organizers with templates to support reading comprehension
3. Read:OutLoud (Win . Mac) - http://www.donjohnston.com/resources/readoutloud_index.html . digital text tools with extensive reading strategies/guides and cognitive supports for fiction and non fiction
4. Active Reading Strategies - http://www.savvyknowledge.com/products/great_teacher/greatteacher.html . excellent resource of strategies for students to use to visually organize text .

Digital Text (scaffolding tools for struggling readers)

1. Natural Reader (Win) - www.naturalreaders.com . a free text-to-speech utility. add to Adobe Reader and your computer can read PDF files aloud . use with a web browser and the Internet "talks"
2. Read and Write Gold (Win . Mac) - <http://www.texthelp.com> . suite of software tools that are available in most programs being used on a computer. includes scanning printed text, reading and writing supports, and study tools
3. Kurzweil 3000 (Win . Mac) - <http://www.kurzweilededu.com> . software designed for scanning printed text to digital formats. includes reading, writing, and study supports
4. Wynn (Win) - <http://www.freedomscientific.com/LSG/products/WYNN.asp> . software designed for scanning printed text to digital formats. includes reading, writing, and study supports
5. Scan and Read Pro (Win) - <http://www.readingmadeez.com/products/scanreadpro.html> . software designed for scanning printed text to digital formats



Writing & Publishing

Handwriting Tools

1. Pencil Grips - <http://www.otideas.com/Items/PencilGrips.htm>
2. LoTTIE Kits - <http://www.onionmountaintech.com/> . simple technology for reading, writing, and math
3. StartWrite (Win . Mac) - <http://www.drawyourworld.com/strtwrt.html> . inexpensive program for creating a variety of visually lined papers and writing guides. excellent program
4. Stationery Studio (Win . Mac) - <http://www.fablevision.com/stationerystudio/index.php> . software for creating a variety of visually lined papers and writing guides. includes an extensive graphics library. highly engaging
5. Free Online Graph Paper - <http://incompetech.com/graphpaper/> . free online PDFs of various graph papers. includes online generators so you can create customized graph papers and print them out



Graphic Enhanced Writing

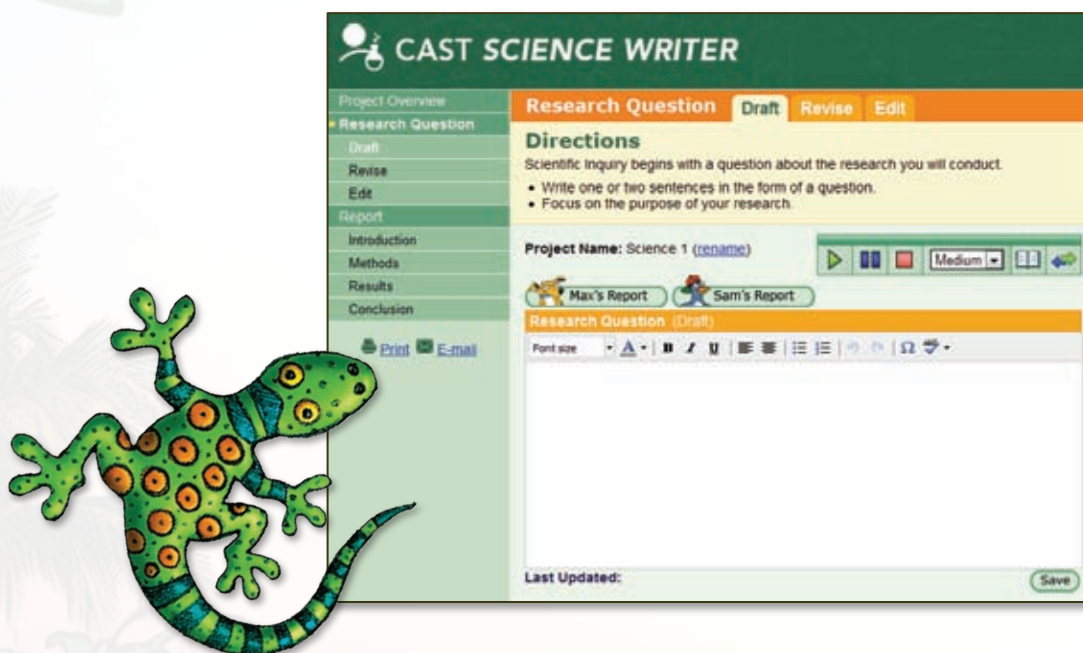
1. Clicker 5 (Win . Mac) - <http://www.cricksoft.com/uk/products/clicker/> . write with words, phrases, or pictures. correlates pictures to words and includes text-to-speech
2. PixWriter (Win . Mac) - <http://www.slatersoftware.com/pixwriter.html> . write with words, phrases, or pictures. correlates pictures to words and includes text-to-speech
3. Classroom Suite (Win . Mac) - <http://www.intellitools.com> . write with words, phrases, or pictures
4. Writing with Symbols (Win) - <http://store.mayer-johnson.com/us/software/writing-with-symbols.html> . word/picture processor with text-to-speech
5. Communicate: In Print 2 (Win) - <http://www.widgit.com/products/inprint/index.htm> . a symbol-based desk top publishing program



Writing Tools & Scaffolding

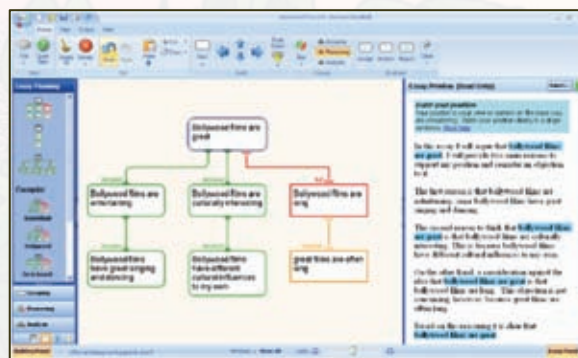
1. SOLO (Win . Mac) - <http://www.donjohnston.com/products/solo/> . literacy and writing support with text readers, information organization tools, and word processing
2. Write Online - <http://www.cricksoft.com/us/writeonline/> . online writing software with text-to-speech, word prediction, vocabulary wordbars, and document analysis tools
3. Classroom Suite (Win. Mac) - <http://www.intellitools.com> . provides word prediction, speech feedback, and extensive writing support tools
4. Co:Writer (Win. Mac) - <http://www.donjohnston.com/products/cowriter/index.html> . adds quality linguistic word prediction to any software program or word processor a student is using. use with a talking word processor to get full audio feedback

5. WordQ (Win) - <http://www.wordq.com/> . provides word prediction and text-to-speech to any writing software program. the company also has a plug-in called SpeakQ for voice-to-text
6. Writing Roadmap - http://www2.ctb.com/products_services/wrm/index.html . affordable online writing and assessment tool that provides instant scoring functions
7. Science Writer - <http://sciencewriter.cast.org/welcome;jsessionid=FAA2794D7BA92AF3D33A63FABC10E502> . great online tool that supports students in writing lab and class science reports
8. Ginger Software - <http://www.gingersoftware.com/> . writing assistance software with a premium version that adds text-to-speech



Writing Organizers

1. Graphic Organizers - <http://www.teachervision.fen.com/graphic-organizers/printable/6293.html?s2> . free online source of printable graphic organizers in a wide variety of cognitive supports
2. Inspiration (Win . Mac) & Kidspiration (Win . Mac) - <http://www.inspiration.com> . commercial concept mapping with extensive image libraries and writing support tools
3. Rationale (Win) - <http://www.austhink.com> . guided reasoning and argument thinking diagramming software for Windows. requires .net2 which may be on current XP machines
4. Online Thinking Tools - <http://www.intel.com/education/tools/> . includes online tools for visual ranking, seeing the relationships in complex systems, and constructing well-reasoned arguments



Research Support Tools

1. Find Out & Write About (Win . Mac) - <http://www.cricksoft.com/us/products/clicker/fowa/default.aspx> . topic based activities to help students learn to review information and then write about it
2. Assignment Calculator - <http://www.lib.umn.edu/help/calculator/> . create a time management guide for writing papers

- SOLO (Win . Mac) - <http://www.donjohnston.com/products/solo/> . literacy and writing support with text readers, information organization tools, and word processing
- Thematic Pathfinders - <http://42explore.com/> . great starting point for students to search for information on themes and topics
- My Hero - <http://www.myhero.com/go/home.asp> . support reading and writing by allowing students to choose their heroes and to contribute information
- TekMom - <http://www.tekmom.com/search/> - one page resource of multiple search tools for students
- Big 6 Research Model Handout - <http://www.big6.com/files/Big6Handouts.pdf> . from Michael B. Eisenberg and Robert E. Berkowitz at <http://www.big6.com>
- Shmoop - <http://www.shmoop.com/> . study guides, writing guides, and literacy analysis tools
- WebNotes - <http://www.webnotes.net/> . share websites and organize research material
- Diigo Education - <http://www.diigo.com/education> . online highlighting and sticky note service
- WordWeb - <http://wordweb.info/free/> . a free English thesaurus and dictionary that works with most Win programs
- Son of Citation Machine - <http://citationmachine.net/> . online tool for creating standard bibliographic and in-text citations
- MyPublisher - <http://www.mypublisher.com/> . create your own books with photos
- Scribd - <http://www.scribd.com/> . online publishing store & service



Publishing (Paper – Web)

- Stapleless Books - http://www.readwritethink.org/student_mat/student_material.asp?id=10 . online tool for children to create simple stapleless books
- Pocket Mod - <http://www.pocketmod.com/> . more ideas for stapleless books
- ClickBook (Win) - <http://www.bluesquirrel.com/products/clickbook/> . utility that paginates writing done in just about any software program so it can be printed as a book or booklet
- flickr toys - <http://bighugelabs.com/flickr/> . amazing online publishing tools with flickr integration
- LetterPop - <http://www.letterpop.com/> . free online service for creating beautiful newsletters and flyers
- Blogger - <https://www.blogger.com/start> . free blogging service that includes posting by email. a great way for students to turn in writing assignments electronically or share writing with others
- Wikispaces - <http://www.wikispaces.com/> . free wiki service with online collaborative tools
- PodBean - <http://www.podbean.com/> . free service for podcasting and vodcasting
- VoiceThread - <http://voicethread.com/#home> . students can publish online with text, audio, or video
- Go2Web20.net - <http://www.go2web20.net/> . complete Web2.0 directory

Math

Start by looking at your state's grade level expectations in math skills. The following are for Florida.

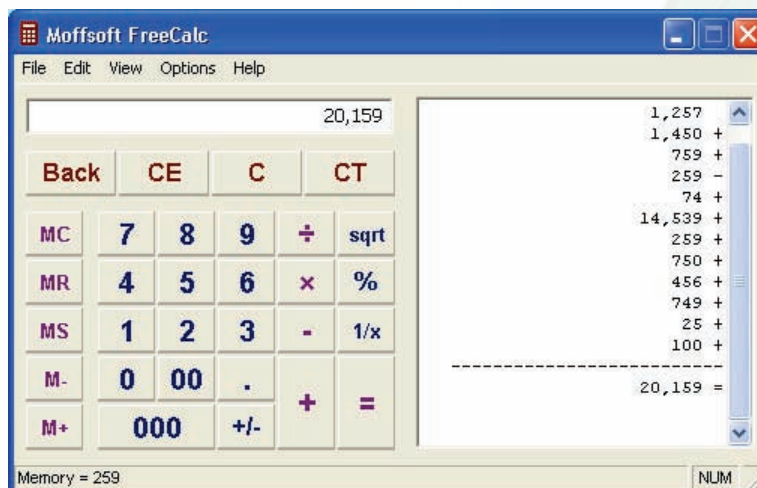
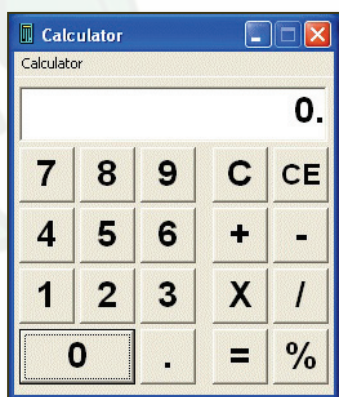
1. Sunshine State Standards in Math - <http://www.floridastandards.org/downloads.aspx>
2. FCAT Math Sample Tests - <http://fcad.fldoe.org/fcatitem.asp>
3. FCAT Released Math Tests - <http://fcad.fldoe.org/fcatrelease.asp>

Math Basics

1. Math Manipulatives - http://www.ct4me.net/math_manipulatives.htm . extensive collection of information on using manipulatives and virtual manipulatives to support math as well as links to usable tools
2. Visual Math Materials - <http://www.mathlearningcenter.org/curriculum/highschool/overview.asp> . books on using math manipulatives for algebra in middle and high school
3. LoTTIE Kit for Math - <http://www.onionmountaintech.com/kit.php?id=15> . simple technology support for math
4. Classroom Suite (IntelliMathics) – <http://www.intellitools.com> . includes animation, manipulatives, text-to-speech, and multimedia to demonstrate basic math concepts with multiple access options
5. FASTT Math – <http://www.tomsnyder.com> . software that targets the development of fluency in addition, subtraction, multiplication, and division
6. Go Solve – <http://www.tomsnyder.com> . uses graphic organizers to help students plan for solving word problems in addition, subtraction, multiplication, and division
7. Algebra Support Tools - <http://algebrasupporttools.wikispaces.com/> . correlation of a variety of online math tools to algebraic concepts and activities
8. CSI:Mathematics - <http://www.ceismc.gatech.edu/CSI/homepg.htm> . excellent online resources for printable math activities in a variety of grade levels
9. Elementary Math Activities - <http://www.greece.k12.ny.us/task/activities/elemmath.htm> . links to great activities for K-5
10. Math TV - <http://mathtv.com/> . online math instruction videos
11. Apples 4 the Teacher - <http://www.apples4theteacher.com/> . free online classroom (up to grade 6) activities in a variety of curriculum areas
12. Interactives - <http://www.learner.org/interactives/> . provides educators and students with strategies, content, and activities
13. Brainchild - <http://www.brainchild.com/> . math assessment and learning tools
14. That Quiz - <http://www.thatquiz.org/> . online math assessment service



15. Utah Education Network - <http://www.uen.org/k12student/> . extensive collection of resources in a variety of curriculum areas. be sure to look on the right side of the page for the “Student Interactives” for grades K-2, 3-6, and 7-12.
16. DimensionM - <http://www.dimensionm.com/> . 3D math games



Calculators

1. Big Calculator (Win) - <http://www.sensorysoftware.com/bigcalculator.html> . a free basic calculator that can be adjusted for really big buttons
2. Metacalc - <http://www.metacalc.com/> . free online calculator in various sizes
3. ecalc - <http://www.ecalc.com/> . free online calculator with basic, scientific, and unit conversion modes
4. KoalaCalc (Mac) - <http://www.macropodsoftware.com/koalacalc/index.html> . free simple and scientific mode calculator
5. MoffSoft FreeCalc (Win) - <http://www.moffsoft.com/freecalc.htm> . a great basic calculator with adjustable size and color schemes, and a simulated paper tape display
6. Online Calculators and Algebra Tools - http://go.hrw.com/hrw.nd/gohrw_rls1/pKeywordResults?keyword=Mb1+Tools . several algebra support tools
7. Calculate for Free - <http://www.calculateforfree.com/> . extensive set of various calculation tools
8. Broken Calculator – http://seeingmath.concord.org/broken_calculator . online simulation of a broken calculator. Students must think through how to solve problems using the keys available

Virtual Manipulatives/Simulations

1. InspireData – <http://www.inspiration.com> . applies proven strategies of visual learning to data literacy
2. Visual Fractions - <http://www.visualfractions.com/> . includes online tools for learning fractions
3. NLVM – <http://nlvm.usu.edu/en/nav/vlibrary.html> . collection of online manipulatives and visualizations for all grade levels
4. Explore Learning – <http://www.explorelearning.com> . extensive online set of mathematic simulations and visualizations
5. SELECT Math - <http://boston.k12.ma.us/teach/technology/select/index.html> . aligns virtual manipulatives and visualizations with standards
6. GeoGebra - <http://www.geogebra.org/cms/> . virtual tools for geometry, algebra, and calculus
7. Geometer's Sketchpad - <http://www.keypress.com/x24070.xml> . updated sketchpad with expanded geometry and algebra features

8. Eduscapes - <http://eduscapes.com/sessions/smartboard> . includes links to a variety of simulations and visualizations

9. Illuminations - <http://illuminations.nctm.org/> . a collection of online, standard-based virtual manipulatives and lessons

10. Scratch - <http://scratch.mit.edu/> . friendly programming software that students can use to create games and interactive activities

11. Virtual Geoboard - <http://illuminations.nctm.org/LessonDetail.aspx?ID=L554>

12. Virtual Ruler - <http://www.desktopruler.com/products-dr.htm>

13. Virtual Protractor - <http://www.downloadjunction.com/product/store/15482/index.html>



Homework Helpers

1. Free Online Graph Paper - <http://incompetech.com/graphpaper/> . free online PDFs of various graph papers. includes an online generator so you can create customized graph paper and print it
2. Math is Fun - <http://www.mathsisfun.com/definitions/index.html> . illustrated math dictionary
3. Math TV - <http://mathtv.com/> . online math instruction videos
4. WebMath - <http://www.webmath.com/> . online tool that helps students solve math problems from general math through calculus
5. Mathway - <http://www.mathway.com/> . online tool that helps students solve math problems
6. WebGraphing - <http://www.webgraphing.com/> . online equation-graphing environment, from simple to advanced calculations
7. Algebra Help - <http://www.algebrahelp.com/calculators> . algebra support tool
8. Conversion Tools - <http://www.convertit.com> . basic online collection of conversion tools
9. Equation Wizard (Win) - <http://www.equationwizard.com/> . algebraic equation solver software. trial version good for 30 equations
10. Microsoft Math - <http://www.microsoft.com/math/default.msp> . an all-in-one math homework solution. solve equations, graph functions, use a fully-functional graphing calculator, solve triangles, and convert standard units
11. WebGraphing - <http://www.webgraphing.com/> . online equation-graphing environment, from simple to advanced calculations

Accessibility Support

1. MathPad & MathPad Plus - <http://www.intellitools.com/> . support for doing arithmetic directly on a computer
2. Scientific Notebook - <http://www.mackichan.com/> . math writing environment for the computer
3. MathTalk - <http://www.metroplexvoice.com/> . speech-to-math processor. requires Naturally Speaking
4. MathType - <http://www.dessci.com/en/products/mathtype/> . full featured equation editor
5. Microsoft Office Equation Editor 2007 - http://blogs.msdn.com/microsoft_office_word/archive/2006/10/04/Equations-in-Word-2007.aspx . includes video examples of how to use the new equation editor in WORD 2007

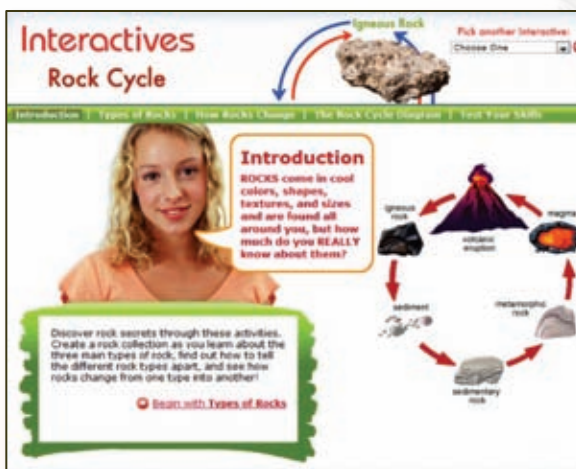
Science

Start by looking at your state's grade level expectations in science. The following are for Florida.

1. FCAT Science Practice Tests - <http://fcat.fldoe.org/fcatitem.asp>
2. FCAT Released Tests - <http://fcat.fldoe.org/fcatrelease.asp>

Science Resources

1. Making Science Labs Accessible - http://www.washington.edu/doit/Brochures/Academics/science_lab.html . great ideas on how to make labs accessible for students with disabilities
2. Simply Science - <http://www.slatersoftware.com/simplyscience.html> . graphic enhanced basic science materials aligned with the Florida Access Points for students taking the Alternate Assessment
3. LearningScience - <http://www.learningscience.org/> . online K-12 resource of free web interactives
4. National Science Foundation's Multimedia Gallery . <http://nsf.gov/news/mmg/index.cfm?s=2> . collection of images, video, audio, and more
5. Interactives - <http://www.learner.org/interactives/> . provides educators and students with strategies, content, and activities that can enhance and improve students' skills in a variety of curricular areas
6. Steps of the Scientific Method - http://www.sciencebuddies.org/mentoring/project_scientific_method.shtml . basic overview of the scientific method with a nice visual diagram of the process
7. Try Science - <http://www.tryscience.org/> . science fair project ideas
8. SCIRUS - <http://www.scirus.com/srsapp/> . search engine for science content
9. Edheads.org - <http://www.edheads.org> . great interactive science activities
10. Enchanted Learning Science Dictionary - <http://www.enchantedlearning.com/science/dictionary/> . science for early learning
11. Apples 4 the Teacher - <http://www.apples4theteacher.com/> . free online classroom (up to grade 6) activities in a variety of curriculum areas
12. Science Writer - <http://sciencewriter.cast.org/welcome;jsessionid=FAA2794D7BA92AF3D33A63FABC10E502> . great online tool that supports students in writing lab and class science reports



Physical Science

1. How Stuff Works - <http://science.howstuffworks.com/physical-science-channel.htm> . targets acoustics, energy, forensic science, nuclear science, optics, and physics

2. Frank Potter's Science Gems - <http://www.sciencegems.com/physical.html> . broad collection of links to physical science web resources
3. Simple Machines - <http://www.edheads.org/activities/simple-machines/> . learn about simple and compound machines
4. Physics4Kids - http://www.physics4kids.com/files/motion_intro.html . an overview of the basics of motion . don't forget that students can use text-to-speech tools to hear this content read aloud

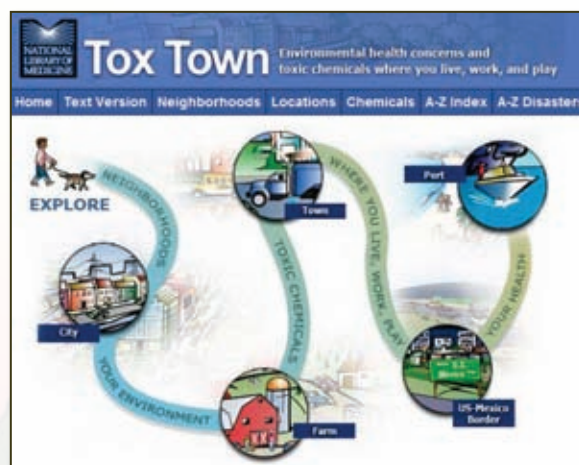


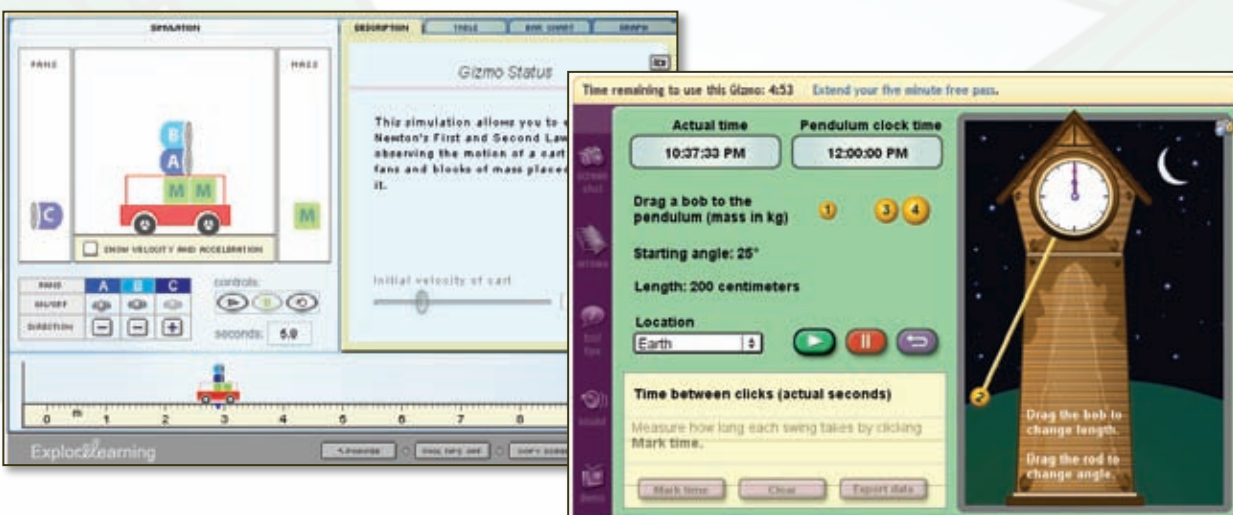
Life Science

1. DNA From the Beginning - <http://www.dnaftb.org/dnaftb/> . an animated primer on the basics of DNA, genes, and heredity
2. DNA Interactive - <http://www.dnai.org/> . lesson plans and classroom activities . free registration for teachers
3. Kids Biology - <http://www.kidsbiology.com/> . online resources and biology games

Earth & Space Science

1. Why Earth Science - http://www.agiweb.org/education/WhyEarthScience/Why_Earth_Science.pdf . a pdf resource on why earth science is important
2. ToxTown - <http://toxtown.nlm.nih.gov/index.php> . a highly interactive resource on environment health concerns and toxic chemicals found in everyday life . from the National Library of Medicine
3. The Water Cycle - <http://ga.water.usgs.gov/edu/watercycle.html> . water cycle diagrams and information available in a variety of languages
4. PowerUp - <http://www.powerupthegame.org/home.html> . 3D science game students can download. uses a phrase-based chat system so no inappropriate communication can take place. a teacher's guide is also available to support the study of earth science
5. Windows to the Universe - <http://www.windows.ucar.edu/> . content lessons on our planet, solar system, and the universe. each lesson is available in 3 different reading levels and in English or Spanish
6. Earth & Moon Viewer - <http://www.fourmilab.ch/earthview/vplanet.html> . view a map of the Earth showing the day and night regions at any time or view the Earth from the Sun or Moon
7. Starry Night (Win . Mac) - <http://www.starrynightstore.com/> . extremely realistic astronomy simulation software with activities for K-12
8. Stellarium (Win . Mac) - <http://www.stellarium.org/> . free planetarium for the computer
9. WorldWide Telescope - <http://www.worldwidetelescope.org/Home.aspx> . a Microsoft project that uses telescopic imagery to put the universe at your fingertips
10. JASON Project - <http://www.jason.org/public/whatis/start.aspx> . project oriented science curriculum where students interact with real scientists in the field
11. NASA Images - <http://www.nasaimages.org/> . free, searchable online library of NASA images and multimedia





Virtual Labs / Simulations

1. OE-Cake - http://oecake.wikia.com/wiki/OE-Cake_Wiki . a 2.5D physics-based paint program where users can insert objects and see them interact under the laws of physics
2. ExploreLearning - <http://www.explorelearning.com> . extensive online set of science simulations and visualizations . each simulation can be used for free for up to 5 minutes per session
3. Froguts - http://www.froguts.com/flash_content/index.html . virtual frog dissection software
4. NASA Virtual Scanning Electron Microscope - <http://learn.arc.nasa.gov/vlab/index.html> . a complete simulation of a scanning electron microscope
5. Virtual Chemistry Lab - <http://www.chemcollective.org/applets/vlab.php> . select from hundreds of standard reagents and manipulate them just like in a real lab
6. Virtual Chemistry - <http://www.chem.ox.ac.uk/vrchemistry/> . a comprehensive chemistry website from the University of Oxford. LiveChem is an interactive chemistry experiment, where users choose items to mix, and videos display the reaction
7. Interactive Periodic Table - <http://www.chem.ox.ac.uk/vrchemistry/pt/> . periodic table with picture representation for each element (when available)
8. It's Elemental - <http://education.jlab.org/itselemental/index.html> . interactive periodic table

Technology Tools

1. EyeClops - <http://www.eyeclops.com/> . "toy" microscope that plugs into a TV or projector
2. Digital QX5 Computer Microscope - http://digiblue.com/digital_blue/qx5.html . USB microscope for viewing microscopic organisms on a computer screen or projected on a large screen
3. Timelapse Garden Camera - <http://www.hammacher.com/Product/76551?source=FROOGLE> . easy way to create time lapse videos
4. HandyAvi Time-Lapse - <http://www.azcendant.com/> . video software to help in making time lapse videos
5. Flix - <http://www.nimisis.com/projects/flix.php> . software for using web cams to make time lapse videos
6. Make Your Own Microscope - http://highlightskids.com/Science/TryThis/h3TT1108_waterMicroscope.asp . simple activity in which students create a microscope with a cup, plastic wrap, a rubber band, and some water

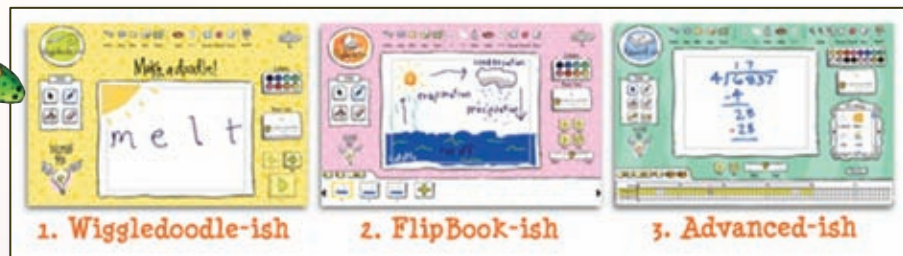
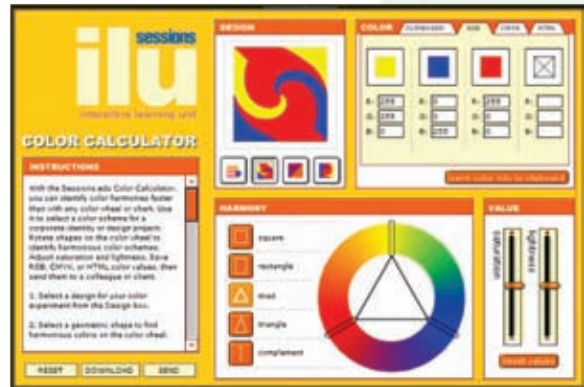


Tip - Need a quick way to enlarge small objects, plants, insects, etc.? Use a regular photo scanner. Place a transparency on the glass surface to protect it from any scratches and then place the object on the transparency. Lay a sheet of paper over the object you are scanning. Scan it into an image editing program at 600 dpi. You will then be able to view on screen, project, or print out a very large version of the scanned object.

Creative Media

Painting & Drawing

1. Color Wheel Color Calculator - http://www.sessions.edu/career_center/design_tools/color_calculator/index.asp# . free online tool for creating a variety of HTML, RGB, or CMYK color palettes
2. Tux Paint (Win) - <http://www.tuxpaint.org/> . free paint software for children
3. Sumo Paint - <http://www.sumopaint.com/home/> . free online paint and image editing program
4. Sketch & Smudge (Win) - <http://www.sketchandsmudge.com/> . inexpensive drawing software that realistically mimics chalk and smudge sticks. includes drawing tutorials
5. Art Rage (Win . Mac) - <http://www.artrage.com/artrage.html> . excellent natural media painting software that includes various "paper" types
6. Animation-ish (Win . Mac) – <http://www.animationish.com/> . amazing drawing and animation program for young and old students
7. meMoov.com - http://memoov.com/studio_page.aspx . create animations online with this easy tool
8. PicTaps - <http://roxik.com/pictaps/> . draw simple pictures and then animate them
9. Artthread - <http://www.artthread.org/> . interactive online art gallery with social networking and online art tools



Working in 3D

1. Google SketchUp - <http://sketchup.google.com/> . free 3D building creation program
2. Project Spectrum - <http://www.google.com/educators/spectrum.html> . information on the successful use of SketchUp by students on the Autism Spectrum
3. Draw 3D - <http://www.draw3d.com/lessons.htm> . Mark Kistler drawing instruction site with lots of training videos on how to draw with perspective and a 3D effect. scroll down in the video section to see some free drawing videos
4. BlockCad - <http://blockcad.net/> . virtual legos for Windows
5. LEGO Factory - <http://factory.lego.com/> . more virtual legos.
6. Bryce - <http://www.daz3d.com/i.x/software/bryce/> . render virtual worlds in stills and animations

Photography/Video

1. Picasa (Win) – <http://picasa.google.com/> . free software to edit and organize photos, create slide shows, post to blogs, and more
2. Pixlr - <http://www.pixlr.com/> . online photo editor
3. Photoshop.com - <https://www.photoshop.com/> . online service for storing and editing photos using an "express" online version of Photoshop. the basic level is free

4. Flickr Toys – <http://bighugelabs.com/flickr/> . incredible things to do with photos. great fun
5. Photosynth – <http://photosynth.net/default.aspx> . create incredible photo based vistas and interactive environments with this online tool and your photos
6. Cinema – <http://www.learner.org/interactives/cinema/index.html> . learn about the process of filmmaking
7. Xtra normal – <http://www.xtranormal.com/> . online text-to-movie tool where students can create characters, add clothing and type in a script then watch the characters “act” out the script.
8. HandyAvi Time-Lapse – <http://www.azcendant.com/> . video software to help in making time lapse videos
9. Flix – <http://www.nimisis.com/projects/flix.php> . software for using web cams to make time lapse videos

Audio Capture/Editing

1. Audio Hijack Pro (Mac) – <http://www.rogueamoeba.com/audiohijackpro/> . captures any audio on the computer
2. Total Recorder (Win) – <http://www.highcriteria.com/> . captures any audio on the computer
3. Audacity (Win . Mac) – <http://audacity.sourceforge.net/> . free audio editing software
4. Record (Win . Mac) – <http://www.propellerheads.se/> . full featured music recording studio

Music Creation

1. Dot Mixer – <http://www.exploratorium.edu/music/exhibits/dotmixer/index.html> . online easy stereo music creation activity with preset sounds. try this on an interactive whiteboard with stereo speakers on each side
2. JamStudio – <http://www.jamstudio.com/Studio/index.htm> . online loop-based music creation program
3. Riffworks (Win . Mac) – <http://www.sonomawireworks.com/riffworks.php> . multi-track audio recorder
4. NotePad (Win . Mac) – <http://www.finalemusic.com/notepad/> . music notation program that supports the creation of complex musical arrangements that can be printed or played by the computer
5. GarageBand (Mac) – <http://www.apple.com/ilife/garageband/> . a great loop-based audio program that also includes the ability to record voice and other instruments as well as interfacing with a keyboard to control digital synthesizers, making it a full digital studio
6. Mixcraft (Win) – <http://www.acoustica.com/mixcraft/> . inexpensive multi-track audio recorder that includes loops
7. Reason (Win . Mac) – <http://www.propellerheads.se/> . full featured music creation with virtual synthesizers and effects
8. Acid (Win) – <http://www.sonycreativesoftware.com/products/acidfamily.asp> . loop-based music creation software that comes in several versions. includes extensive recording features in addition to the loops as well as the ability to control digital synthesizers with MIDI keyboards



iPod Touch / iPhone Music Apps

1. FourTrack – <http://www.sonomawireworks.com/iphone/fourtrack/>
2. BeatMaker – <http://www.intua.net/products.html>
3. Bebot – <http://www.normalware.com/>
4. iShred – <http://frontierdesign.com/iShred/> (also look for Guitar, Piano Studio, and others from this company)

3D Games & Virtual Worlds

3D games and virtual worlds provide opportunities for students to engage in project based learning, problem solving, and social community development. They provide an excellent environment in which to develop 21st Century Skills and they have the advantage of being ongoing so students can interact in many of these environments at school and at home; supporting efforts in continuity of learning. Initial research indicates that these environments are highly engaging for many students.

One of the most powerful aspects of virtual worlds for students with disabilities is that everyone's avatar in a virtual world has the same virtual abilities. For example, in Second Life every resident can sky dive, run, fly, swim, dance, etc. This move from physical abilities to virtual abilities can have a significant impact on the development of self-identify, shared identify, and community.

Articles / Research

- Avatars Teach Teens About Self-Image - <http://www.edutopia.org/digital-generation-self-image-avatars>
- Focus on 21st Century Skills - <http://www.eschoolnews.com/news/top-news/index.cfm?i=55881>
- Gaming Improves Math Scores - <http://www.eschoolnews.com/news/around-the-web/index.cfm?i=55919>
- Research on Impact on Learning - <http://www.eschoolnews.com/news/top-news/index.cfm?i=54917>
- Nearly Every Kid a Gamer - <http://www.eschoolnews.com/news/top-news/news-by-subject/research/?i=55252>
- A Qualitative Meta-Analysis of Computer Games as Learning Tools - <http://www.igi-global.com/downloads/excerpts/7960.pdf>
- Social Skills in Second Life - <http://www.msnbc.msn.com/id/7012645/>
- 21st Century Skills - <http://www.21stcenturyskills.org/route21/>

From a presentation by David Gauntlett & Lizzie Jackson - http://www.childreninvirtualworlds.org.uk/pdfs/Gauntlett_and_Jackson_May_2008.pdf

Types of Players (different orientations to the environment)

- explorer - investigator (following a quest or journey)
- self stampers (presenting themselves to the world)
- social climber (social position within the environment)
- collector - consumer (accumulating things of value)
- fighters (destruction, superpowers)
- power users (giving others the benefit of their knowledge and expertise)
- life-system builders (creating new lands and environments)
- nurturers (looking after their avatars and pets)



Virtual games are also highly successful with students with disabilities though attention needs to be given to support needs and assistive technologies. Resources include:

1. Assistive Gaming . <http://www.assistivegaming.com/>
2. AbleGamers . <http://ablegamers.com/>
3. PCS Games . <http://www.pcsgames.net/>

Example 3D Games / Virtual Worlds

1. SMILE (science and math in an immersive learning environment) - <http://www2.tech.purdue.edu/cgt/I3/SMILE/> . a virtual world learning environment being developed specifically for students who are deaf or hard of hearing
2. Webkinz - <http://www.webkinz.com/> . take care of virtual pets
3. JumpStart Virtual World - <http://www.jumpstart.com/> . a mix of a virtual world with typical interactive learning activities in a game to earn awards
4. Dimension M - <http://www.tabuladigita.com/> . virtual world targeting pre algebra and algebra
5. Quest Atlantis - <http://atlantis.crlt.indiana.edu/> . virtual world targeting social responsibility, compassionate wisdom, creative expression, and more
6. PowerUp - <http://www.powerupthegame.org/home.html> . 3D science game students can download. uses a phrase based chat system so no inappropriate communication can take place. a teachers guide is also available to support the study of earth science
7. Spore - <http://www.spore.com/> . amazing science game where the student controls the course of evolution from the cell stage through space exploration. go to the web site and download the free creature creator
8. BarbieWorlds.com - http://www.barbiegirls.com/homeMtl_a.html . explore a 3D environment designed for girls
9. ZulaWorld - <http://www.zulaworld.com/#> . virtual exploration of science, math, and astronomy
10. River City - <http://muve.gse.harvard.edu/rivercityproject/> . virtual environment designed to promote the development of scientific inquiry and 21st century skills.
11. Whyville - <http://www.whyville.net/smmk/nice> . virtual world designed for pre-teen and teen boys and girls
12. Wilostar3D - <http://www.wilostar3d.com/default.asp?ild=HILHG> . SACS accredited online homeschooling program and 3D virtual environment for K-12
13. Club Penguin - <http://www.clubpenguin.com/> . virtual world from Disney that includes filtered chat and live moderators
14. Edusim - <http://edusim3d.com/index.php> . a free virtual environment designed for interactive whiteboards
15. Second Life / Teen Second Life - <http://www.secondlife.com> . one of the most popular virtual world environments, and one of the most sophisticated. both versions of Second Life can be made very secure so students will be safe online



Computer Access

All students need to be technologically literate and have good computer skills to engage in virtual instruction as well as have access to various digital tools and flexible digital media. The following resources can help.

1. ISTE National Educational Technology Standards for Teachers and Students - <http://www.iste.org/AM/Template.cfm?Section=NETS>
2. Florida's Assistive Technology Assessment Competencies Web Site - <http://www.florida-ese.org/atcomp>

Alternative Keyboards – provides alternatives to a regular keyboard, with different key sizes as well as the number and type of keys. Some include built-in mouse functions.

1. IntelliKeys - <http://www.intellitools.com/> . popular, customizable keyboard with a variety of overlays
2. Big Keys - <http://www.bigkeys.com/> . large keys with color choices
3. Half Keyboard - <http://www.halfkeyboard.com/products/hkbinfo.html> . a small one hand keyboard
4. Tash Mini - <http://www.ablenetinc.com/Store/tabid/205/Default.aspx?CategoryCode=43> . small keyboard that includes keyboard and mouse functions

Communication Devices as Alt Keyboards – Some students use a communication device as their computer system and alternative keyboard. Below are some example devices.

1. ECO-14 - <http://www.prentrom.com/eco>
2. V & Vmax - <http://www.dynavoxtech.com/products/v/>

On-screen Keyboards – On-screen keyboards float over other software programs and allow text input using a mouse, touch screen, or other input method. Both Windows and Macintosh include basic built-in on-screen keyboards. Here are some additional ones with extra features.

1. Click n'Type (Win) - <http://www.lakefolks.org/cnt/> . free onscreen keyboard with basic word prediction features
2. OnScreen (Win . Mac) - <http://www.rjcooper.com/> . an onscreen keyboard with "word complete" features. 14 day trial. you can request a free CD
3. Keystrokes (Mac) - <http://www.assistiveware.com/keystrokes2.php> . a nice looking onscreen keyboard that works with OSX and includes word prediction features
4. Reach (Win) - <http://www.ahf-net.com/> . a feature rich onscreen keyboard with word prediction. very customizable. 30 day trial
5. My-T-Mouse and My-T-Mouse for Kids (Win) - <http://www.imgpresents.com/>

Alternative Mouse – Options for students who cannot use a regular computer mouse.

1. Joy Stick & Trackballs - http://assistive.traxsys.com/staticproductlisting.asp?strareano=2001_1
2. SAM Trackball - <http://www.rjcooper.com/sam-trackball/index.html>
3. Ergonomic Touchpad - www.ergonometrictouchpad.com/ergonomic_touchpad.php?gclid=CNuv3aj395cCFQLixgodMWuODQ
4. Touch Windows - <http://www.magictouch.com/addon.html>
5. Wafer Switch - <http://www.ablenetinc.com/Store/tabid/205/Default.aspx?CategoryCode=144>
6. Arm & Wrist Supports - <http://www.ergorest.us/>

Mouse Emulation for Switch Control

1. CrossScanner (Win) - <http://www.rjcooper.com/cross-scanner/index.html>
2. ScanBuddy (Win) - <http://www.ahf-net.com/Scanbuddy.htm>
3. DiscoverPro (Win) & DiscoverEnvoy (Mac) - <http://www.madentec.com/products/>

Switch & Switch Interface Systems

1. Switch Systems from AbleNet - <http://www.ablenetinc.com/Home/Products/Switches/tabid/57/Default.aspx>
2. Interfaces from AbleNet - <http://www.ablenetinc.com/Store/tabid/205/Default.aspx?CategoryCode=74>
3. Switch Interface Pro - www.donjohnston.com/products/access_solutions/hardware/switch_interface_pro_5/index.html
4. IntelliSwitch - <http://www.madentec.com/products/intelliswitch.php>
5. Switch Scanning Methods - <http://www.bltt.org/switch/scanning.htm> . online animation examples of switch scanning systems

Large Cursors – Both Windows and Macintosh computers have built-in options for changing the size of the cursor. Below is a resource for more options.

1. Biggy - <http://www.rjcooper.com/biggy/index.html>

Head Tracking – Provides head control of a computer.

1. TrackerPro - <http://www.madentec.com/products/tracker-pro.php> . no additional software is needed
2. HeadMouse - <http://www.orin.com/access/headmouse/>

Screen Magnification – Both Windows and Macintosh offer basic built-in screen magnification. Here are additional ones with extra features.

1. MAGic (Win) – <http://www.freedomscientific.com/products/lv/magic-bl-product-page.asp>
2. ZoomText (Win) - <http://www.aisquared.com/Products/index.cfm>
3. Magnifiers - <http://www.magnifiers.org/> . an extensive resource for all types of screen magnifiers

Screen Readers – Provides audio output for everything on the computer screen.

1. JAWS (Win) – <http://www.freedomscientific.com/jaws-hq.asp> . screen reader that supports Braille devices
2. Window-Eyes (Win) - <http://www.gwmicro.com/> . screen reader that supports Braille devices
3. VoiceOver (Mac) - <http://www.apple.com/accessibility/voiceover/> . screen reader with plug and play support for Braille devices

Text-to-Speech Utilities – Utilities that provide text-to-speech support.

1. Mac Built-In - <http://www.apple.com/accessibility/macintosh/literacylearning.html> . the built-in text-to-speech on the Macintosh will read aloud any selectable text
2. Natural Reader (Win) – <http://www.naturalreaders.com/> . free and commercial versions available
3. Universal Reader & Key to Access (Win) – <http://www.readingmadeez.com/products/> . Universal Reader is a floating text-to-speech utility and Key to Access includes this software on a USB drive so it can go from computer to computer
4. Read & Write Gold Mobile (Win) - http://www.texthelp.com/page.asp?pg_id=10178 . reading, writing, and study tools on a USB drive so it can go with the student from computer to computer
5. Kurzweil 3000USB (Win) - <http://www.kurzweiled.com/kurz3000USB.aspx> . the Kurzweil 3000 software on a USB drive that can go with the student from computer to computer

Speech-to-Text – Provides computer control via voice

1. Dragon Naturally Speaking (Win) – <http://www.nuance.com/naturallyspeaking/> . comes in several versions
2. ViaVoice (Win) - <http://www.nuance.com/viavoice/> . comes in several versions
3. MacSpeech Dictate (Mac) - http://www.macspeech.com/product_info.php?products_id=592

Visual Strategies

From communication boards to activity calendars to daily schedules, the use of symbol rich materials can help many students interact successfully with their environment, peers, and teachers.

General Resources

1. Use Visual Strategies - <http://www.usevisualstrategies.com/Welcome.aspx> . information and resources on how to provide visual strategies and supports to help organize the environment, teach skills, support communication, develop calendars, and establish rules and behavior guidelines for students with Autism Spectrum Disorders and other students with disabilities
2. Visual Aids for Learning - <http://www.visualaidsforlearning.com/preschool-pack-learning.htm> . visual supports to help students stay on task and focus on learning activities
3. Polyxo - <http://www.polyxo.com/> . resources and materials to support teaching students with ASD
4. Fraser - http://www.fraser.org/products/autism_support.html?gclid=CI_32qDvmJ8CFRQhnAodM0N8Kg . boards and materials for students with ASD
5. pictureSET - <http://www.setbc.org/pictureset/> . collection of downloadable visual supports for receptive and expressive communication
6. Practical Autism Resources - <http://www.practicalautismresources.com/printables> . includes more than 100 pages of free printable items
7. Adapted Books - http://www.bcps.k12.md.us/Boardmaker/adapted_library.asp . elementary books that have been adapted using the PCS and Boardmaker. files may include questions adapted for a 9, 20, or 56 location communication topic board



Curriculum

1. Polk County FDLRS Boardmaker Resources - <http://www.polk-fl.net/staff/resources/ese/resourcesboardmaker.htm> . resources that support communication, curriculum, and behavior
2. eLIVE - <http://www.symbolworld.org/eLive/index.htm> . a monthly magazine for symbol readers
3. prekindergarten Boardmaker - <http://prekese.dadeschools.net/BMD/activityspecific.html> . downloadable activities for Pre-K
4. Thematic Visual Supports Wiki - <http://fdlrsregion3thematicvisuals.wikispaces.com/> . extensive collection of downloadable visual resources created with Boardmaker 5.0 on a variety of themes. includes BIG/LITTLEmack, symbols, folder activities, snack/art activities, and vocabulary sets
5. Curriculum Visual Supports Wiki - <http://fdlrsregion3curriculumvisuals.wikispaces.com/> . extensive collection of downloadable visual resources created with Boardmaker 6.0 on geography, natural disasters, biomes, health & safety, money, and time
6. Literacy Visual Supports Wiki - <http://fdlrsregion3literacyvisuals.wikispaces.com/> . extensive collection of downloadable visual resources created with Boardmaker 6.0 on antonyms, compound words, homophones, syllables, math vocabulary, science vocabulary, and word families

Augmentative & Alternative Communication (AAC)

Purpose of Communication

- ☐ To indirectly control the environment
 - To obtain or reject something
- ☐ To regulate social interactions
 - To express an emotion or interact with someone
- ☐ To receive and convey information and ideas

Types of AAC

- ☐ No Technology
 - Signs
 - Gestures
- ☐ Light Technology (Static Displays)
 - Pictures (PECS, communication boards/books)
 - Voice output devices
- ☐ High Tech (Dynamic Displays)
 - Speech Generating Devices

From "Autism & Augmentative Alternative Communication (AAC)" by Wendy Gahimer M.A. CCC-SLP

Resources

1. Boardmaker - <http://www.mayer-johnson.com/products/boardmaker-plus/> . software for creating communication boards and adaptive content using picture symbols
2. Pogo Boards - <http://www.pogoboards.com/> . web based tools for creating manual communication boards
3. Dynamic display page sets - <http://fdlrsregion3dynamicdisplaypages.wikispaces.com/> . powerpoint slides were made of the preprogrammed page sets in these devices so we could provide them to students as backup manual communication books and to teachers as reference materials. our preferred print setup in Powerpoint was "handouts, 2/page". devices included Vantage, SpringBoard, SpringBoard Lite, ChatPC, DynaVox series 4, and Palmtop.

Devices

1. Eye Gaze Boards - http://www.bridgeschool.org/transition/multimodal/eye_gaze_boards.php#not . resources and videos on how to use eye gaze boards
2. AbleNet - <http://www.ablenetinc.com/Home/Products/CommunicationProducts/tabid/56/Default.aspx> . wide range of communication devices, from single recorded message up to 64 recorded message systems
3. Proloquo2Go - <http://www.proloquo2go.com/> . a product from AssistiveWare that brings text-to-speech and symbols used in a communication system on the iPhone and the iPod Touch.
4. Proloquo - <http://www.assistiveware.com/proloquo.php> . communication software for the Mac



Companies

1. Mayer-Johnson - <http://www.mayer-johnson.com/>
2. DynaVox - <http://www.dynavoxtech.com/>
3. Prentke Romich - <http://www.prentrom.com/>
4. Zygo - <http://www.zygo-usa.com/>



AT Competencies



Florida's Assistive Technology Assessment Competencies Web Site - <http://www.florida-ese.org/atcomp>

The Department of Education supports the development of assistive technology assessment competencies for Local Assistive Technology Specialists (LATS) and other technology providers who assess students for needed technology accommodations. These competencies focus on fundamental concepts, knowledge, and skills for assessing assistive technology in educational settings. They are crafted from the perspective of the assistive technology professional working with students at the school and district level in the state of Florida, and consequently, are specific to Florida.

To assist LATS and technology providers, the Bureau of Exceptional Education and Student Services (BEES), in conjunction with the Florida Center for Interactive Media (FCIM) and the FDLRS Regional Technology Specialists, have developed a Web-based competency management tool that will allow technology providers to meet and manage competency achievement through a skills inventory procedure.

Competency 1

	Be knowledgeable about and implement the school district's assistive technology (AT) assessment procedures.
	Implement the district's AT referral procedures.
	Describe the function of the individual educational plan (IEP) team as related to AT assessment.

Competency 2

	Understand federal and state regulations and policies related to the consideration and implementation of assistive technology in Florida schools.
	Understand the Individuals with Disabilities Education Act (IDEA) directives regarding AT consideration and implementation.
	Use current technical assistance papers (TAP) and Florida Statutes for consideration and implementation of AT in Florida schools.
	Understand the implementation of AT accommodations in the classroom.

Competency 3

	Select and use appropriate measurement tools, strategies, and activities to assess a student's AT needs.
	Describe at least one assessment tool for each area being assessed.
	Select the appropriate tools based on individual student needs.
	Implement the assessment process.

Competency 4

	Consider a continuum of AT devices, services, and resources that may be used to address the needs of students.
	Follow procedure for providing equipment as a result of AT assessment.
	Implement a continuum of low-tech to high-tech AT tools for a specific learning task.
	Utilize the continuum of services and resources available from school-based, district, regional, state, and national levels.

Competency 5

	Provide leadership and support to professionals, students, and family members/caregivers by the team conducting AT assessment activities.
	Know team-building skills needed to work with the IEP team.
	Identify and collaborate with providers in the AT assessment process.

Competency 6

	Lead the assessment teams in understanding what the student's needs are relative to his/her abilities, educational goals, and environmental factors that relate to the selection and delivery of AT devices and services.
	Lead the assessment team in clarification of findings.
	Facilitate the discussion of abilities, goals, and environmental factors.

Competency 7

	Interpret and present the results of AT assessments to the IEP teams in a way that supports effective decision-making based on the student, the educational program, and data gathered during the assessment process.
	Interpret results of the AT assessment to the IEP team using non-technical language.
	Clarify pertinent assessment information for effective decision making.

Competency 8

	Explain the strengths and challenges of specific AT devices and services and the factors that may affect their use.
	Offer options for professional development training.
	Discuss the challenges and barriers that effect AT use.

Competency 9

	Collaborate with those in charge of implementing the IEP to formulate and initiate a plan using AT to support the educational achievement of the students.
	Design an action plan for AT use.
	Describe a data collection plan for AT use.

For more information on the Competencies Web Site contact a FDLRS Regional Technology Specialist
<http://www.florida-ese.org/atcomp/contacts.htm>

Assistive Technology (AT)

"Assistive technology device means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability."

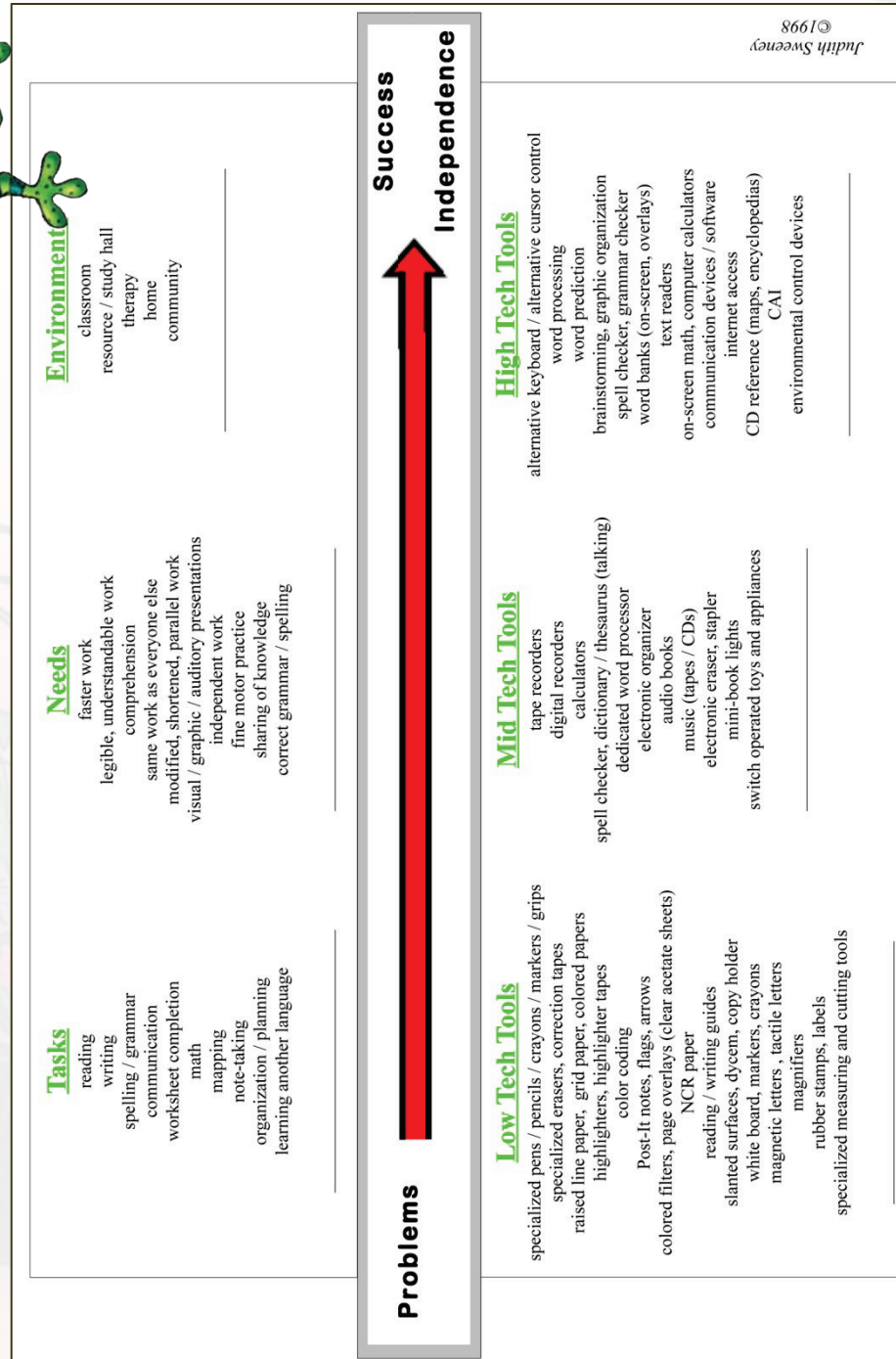
1. ATTO - <http://atto.buffalo.edu/> . online resources and information on assistive technology for students with disabilities in elementary school settings.
2. AT Cycle Toolkit - http://olms.cte.jhu.edu/olms/output/page_site.php?pageID=9514&siteID=1567 . an AT support toolkit from Johns Hopkins University



The Assistive Technology Continuum by Judith Sweeney

<http://www.onionmountaintech.com/>

Devices to try if a student has a problem with



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Judith Sweeney

FCAT Accommodations

Many students with disabilities benefit from accommodations in the classroom that they can continue to use when taking a high stakes test like the FCAT. Without accommodations those students' FCAT scores reflect the impact of their disability rather than what they know. Here are some resources along with a few examples of allowable FCAT accommodations.

Resources

1. Accommodations: A Guide for Educators - http://www.cpt.fsu.edu/ese/pdf/acom_edu.pdf . 64-page ebook on accommodations in the classroom . any approved accommodations for the FCAT must also be a part of that student's instruction so the classroom is a good place to start
2. FCAT Accommodations for Students with Disabilities: For Parents and Teachers - <http://www.fl DOE.org/ese/fcat/fcat-tea.pdf> . a basic guide and overview of allowable FCAT accommodations
3. The IEP Team's Guide to FCAT Accommodations <http://www.fl DOE.org/ese/pdf/fcatteam.pdf> . an ebook on FCAT accommodations

Presentation Accommodations - Presentation accommodations can include large print versions of the test, braille versions of the test, the use of color transparencies, altered spacing of items, visual navigation cues, tabbed pages, highlighter tape to assist in focus, verbal encouragement, and auditory accommodations such as reading or signing, except in the case of the reading assessment items.

Responding Accommodations - Responding accommodations can include written, signed, and verbal responses; special paper with raised or colored lines; dictation to a proctor; text-to-speech technology to indicate an answer; switch systems; alternative keyboards to generate letters or words; pointing devices; communication devices; abacus for students with visual impairments; and math grids.

Scheduling Accommodations - Scheduling accommodations can include the time of day a test is taken, break schedules, and extended time.

Setting Accommodations - Setting accommodations can include special lighting, adapted furniture, special acoustics, the use of an FM personal amplification system, noise buffers, reduction of distracters, increased or decreased opportunities for movement, and the administration of the test in a familiar setting.

Assistive Devices - Assistive devices allowed include alternate keyboards, adapted calculators (such as having large numbers or speech output), non-sentence based devices for oral or written responses, visual magnification devices, communication devices, auditory amplification, and other AT commonly used by the student in the classroom as long as it doesn't impact the purpose of the assessment.

Section 504 Implications - To ensure that all qualified students with disabilities in our public education system are provided necessary aids, services, or accommodations during the administration of a test, districts must ensure that students with disabilities who are not currently receiving special education services or who do not have a current IEP are considered for and, if appropriate, provided test accommodations. In this case, testing accommodations must be listed in the student's 504 plan. (from *FCAT Accommodations for Students with Disabilities*) For all students who request accommodations on the FCAT, those accommodations must be a part of that students' regular instructional support and be noted on their IEP or 504 plan.

Check with you local FDLRS Center (<http://www.fdlrs.com>) for more information on accommodations for students with disabilities.

Unlocking Human Potential

BEESS Technology Services

The Florida Department of Education Bureau of Exceptional Education and Student Services provides a wide variety of technology supports and services for students with disabilities.

Florida Diagnostic & Learning Resources System (FDLRS) Centers

<http://www.fdlrs.com>

These centers are located throughout the state and have Technology Specialists and Regional Technology Specialists available to train and consult on accessible media, assistive technology, instructional technology, and Universal Design for Learning for students with disabilities.



FDLRS Technology Coordinating Unit (FDLRS/TECH)

<http://www.fdlrstech.com>

FDLRS TECH provides coordination for the FDLRS Technology Network and is a statewide resource center designed to assist Florida schools and educators to combine accessible media, assistive technology, instructional technology, and Universal Design for Learning tools to increase student achievement.

FDLRS Technology State Loan Library

<http://fdlrs-tsll.scps.k12.fl.us/>

FDLRS-TSLL is a statewide resource center for districts and Local Assistive Technology Specialists in supporting the availability of assistive technology devices for loan as part of the assistive technology assessment/evaluation process. The FDLRS-TSLL website also includes a wide variety of resources for parents with printable idea guides for the home.

Resource Materials and Technology Center for the Deaf and Hard of Hearing

<http://www.fsdb.k12.fl.us/rmc/>

RMTC-D/HH is a statewide resource center serving teachers of the deaf and hard of hearing throughout Florida, giving teachers of deaf and hard-of-hearing students the technology assistance, training, and consultation they need to successfully integrate technology into their classroom routine. In addition to providing teachers and interpreters with a lending library of over 1,300 captioned and/or signed videotapes, the RMTC website includes extensive technology resources and tutorials for teachers, parents, and students.

Florida Instructional Materials Center for the Visually Impaired & Florida NIMAS

<http://www.fimcvi.org/>

FIMC-VI is a statewide resource center designed to assist schools in obtaining specialized materials for student with visual impairments. Materials are produced by the Center staff, prepared by certified transcribers, and/or purchased by the Center. These materials are then loaned to schools within Florida. Consultation and training are also provided to instructional personnel throughout the state. FIMC-VI also coordinates all Florida NIMAS services and media production.

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Please email David Davis (david@fdlrstech.com) if you have any questions.